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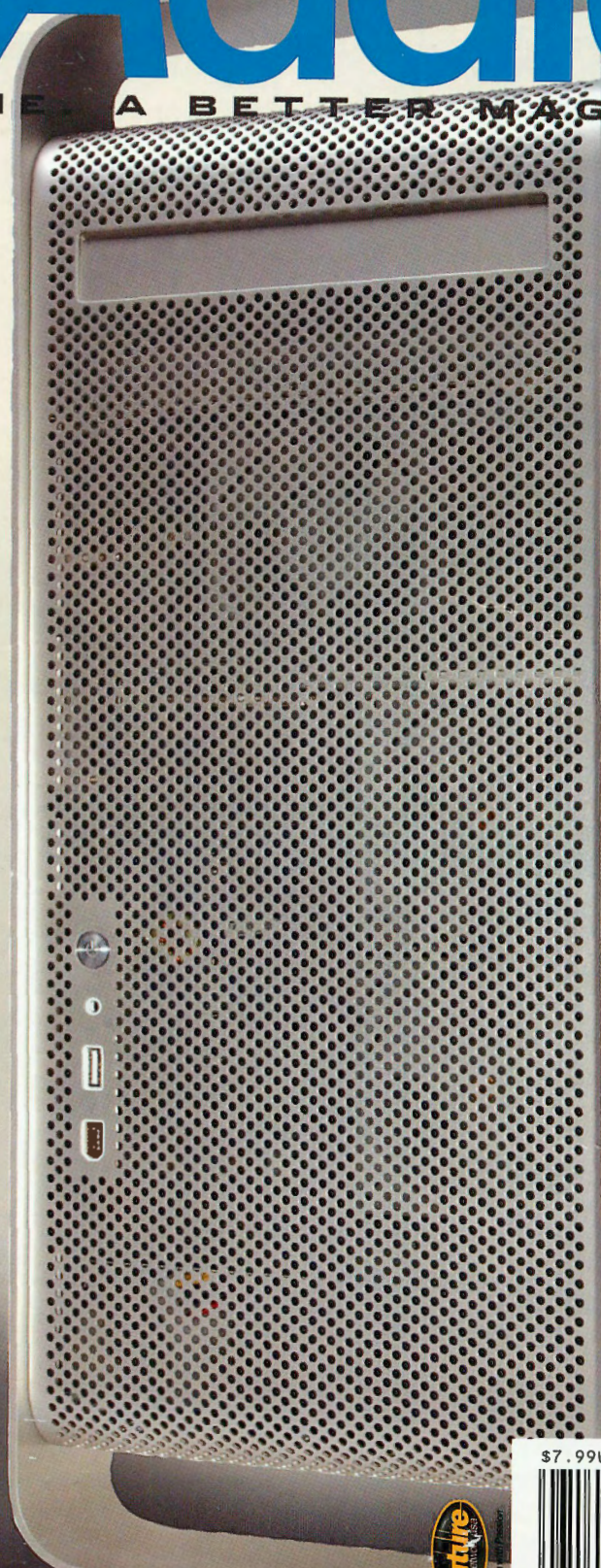
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2004

# MacAddict

A BETTER MACHINE. A BETTER MAGAZINE.



1984



2004

**A Celebration:**  
**THE MAC TURNS 20**



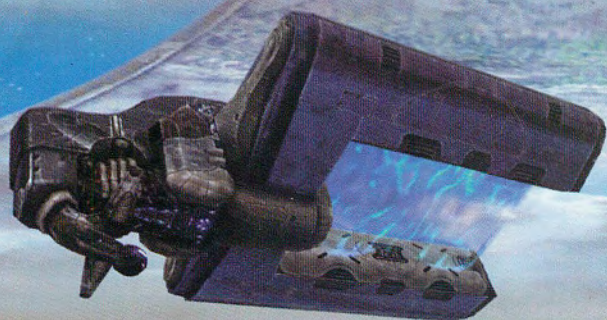
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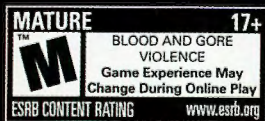
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# The Circle is C



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[www.macsoftgames.com](http://www.macsoftgames.com)

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## MacAddict

## features

20 **Twenty Years of Macintosh**

It's been 20 wild and wonderful—though at times worrying—years since Apple introduced the original Mac. Join us for a whirlwind tour of the last two decades. **by Emory Christensen**

35 **Mac vs. PC Smackdown!**

What happens when you pit a G5 against a high-end Pentium 4? You're about to find out. **by Rik Myslewski**

40 **Panther: Worth Every Penny**

Get this: Not only is Panther worth \$129—it actually will end up saving you money in the long run. Find out how as we show you around Apple's new operating system. **by Deborah Shadovitz**

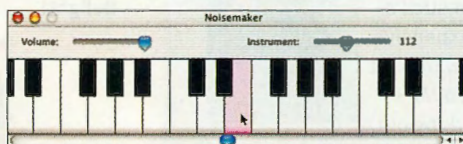
## how to

66 **Ask Us**

Find out how to move your Home directory to an external drive, what makes AppleWorks slow down, why Apple Mail prints so damn small, how to tap the magic behind Safari's tabbed browsing, and much more.

68 **Build Your Own Music Maker**

Pianos, guitars, drums—even violins and bagpipes. Why buy these instruments when you can play 'em for free? We show you how to build a software keyboard to play music. (Sorry—we can't promise you groupies.) **by Erick Tejkowski**



Pink starts her pop career in the key of E.

72 **Play Hidden Unix Games and Other Oddities**

Tell your boss or mate you're studying Mac OS X's Unix-kernel underbelly. What they don't need to know is that you're really calling up OS X's secret stash of classic games. **by Ian Harris**

74 **Make Widgets with Konfabulator**

If you love desktop toys and gadgets, you know about Konfabulator. If you don't, you're going to wish you had known about it a lot sooner. The real fun, though, lies in rolling your own Konfabulator Widgets. **by Johnathon Williams**



**Pong, or the world's easiest Tetris clone?**



**Sunny, with a chance of solar flares.**



## every month

**10 Editors' Page**

Somebody helped you become a Mac addict. Thank them.

**12 Get Info**

Woz's world: Apple's cofounder talks to us about Macs, Mac OS X, and Steve Jobs. Also, the scoop on Unreal Tournament 2004, a chic Bluetooth cell phone, what's inside Virginia Tech's G5 supercomputer, and why you should care about iTunes for Windows.

**47 Reviews**

- 52 Canvas 9 Professional Edition *graphics suite*
- 59 Chronoscan *book-cataloging system*
- 56 Elura 50 *digital video camcorder*
- 58 iTrip *FM transmitter for iPod*
- 58 Media Reader for iPod *portable media-card reader*
- 61 Memory Mini Mouse *input device/USB drive*
- 54 Neverwinter Nights *role-playing game*
- 55 Pyro DV Drive *DV-capturing hard drive*
- 60 Quicken 2004 *financial-management software*
- 57 Rio Cali *flash-based MP3 player*
- 51 Soundtrack *music-composition software*
- 61 Store 'n' Go *USB 2.0 flash drive*
- 48 Studio MX 2004 *Web-development suite*
- 58 Voice Recorder *microphone for iPod*
- 58 VS4121 *speaker set*
- 57 Wireless IntelliMouse Explorer *mouse*
- 60 Wireless Optical Desktop *keyboard and mouse*

**62 The Hot List**

If the editors of *MacAddict* went shopping, this is what we'd buy.



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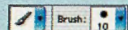
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QUICK TIPS  
FROM THIS MONTH'S ISSUE**➔ CUT CORNERS IN PHOTOSHOP**

To quickly change the brush size in Photoshop, use the left-bracket key ([) to make the brush smaller and the right-bracket key (]) to make it bigger.



From *Ask Us*, p66.

**➔ CONTROL MAIL'S PRINT SIZE**

When printing from Apple's Mail program, make the email window larger to print the message larger, and vice versa. From *Ask Us*, p67.

**➔ GIVE THE GIFT OF MUSIC**

Use iTunes Music Store gift certificates to give your friends \$20 to \$200 toward the purchase of new tunes. Hopefully they'll reciprocate. From *Get Info*, p14.

**➔ DISABLE FONTS IN PANTHER**

Panther's Font Book not only lets you install fonts but also disable them. Just select a font and then click the Disable button. From "Panther: Worth Every Penny," p40.

**➔ GIVE YOUR IPOD A BREAK**

Awesome as the iPod is, there's a time and a place for everything—and your sweaty, pounding-the-treadmill hand is no place for such a refined and expensive piece of hardware. Get a more-rugged MP3 player for working out. From *Reviews*, p57.

**94 Log Out****94 Letters**

Passionate readers weigh in on left-wing tendencies, Christian sensibilities, the MacScan scandal, and the sex appeal of aluminum.

**95 Contest**

Win one of HP's gorgeous see-through vertical scanners.

**96 Shut Down**

A new iPod accessory brings new convenience to your life, and other news.

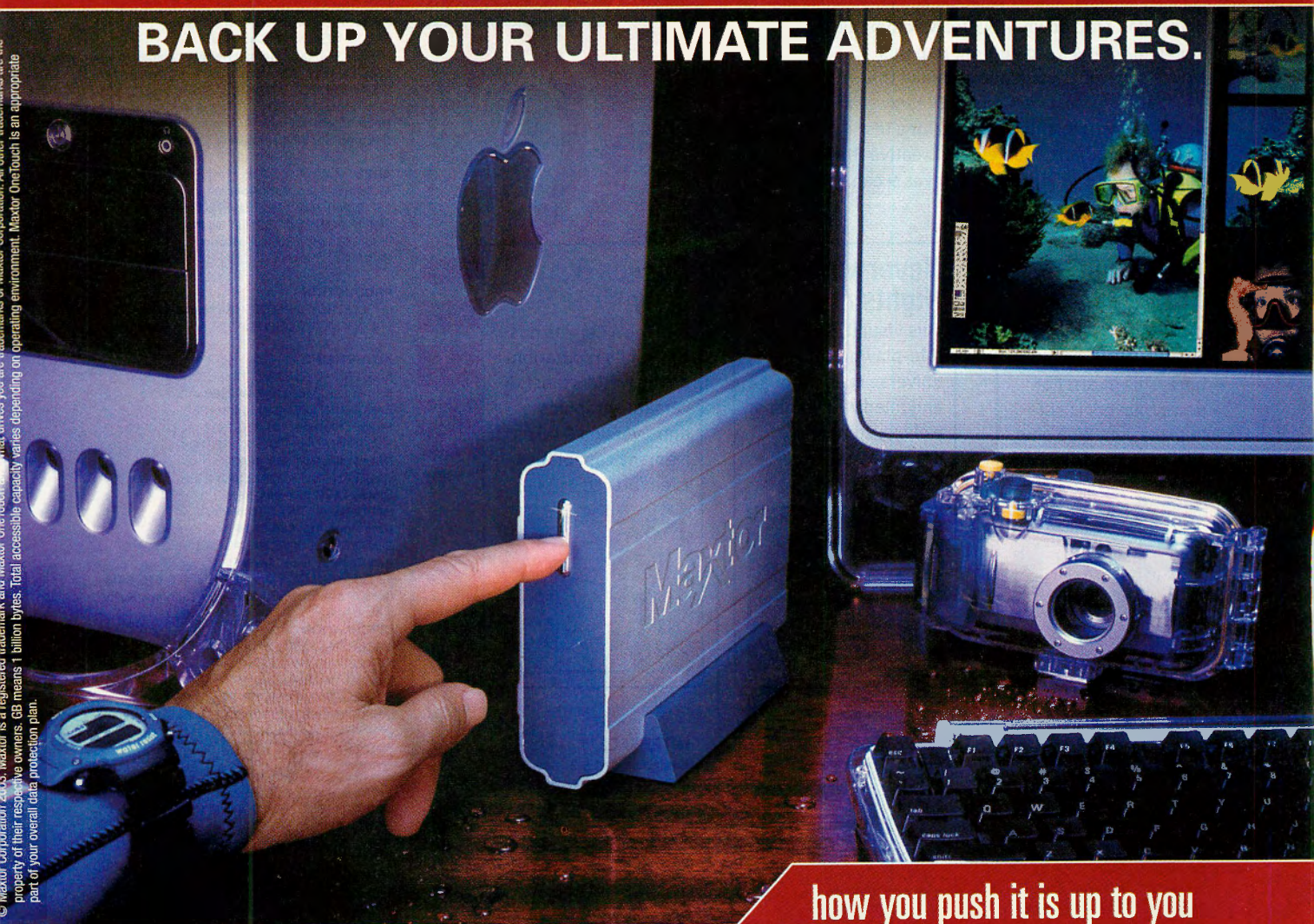
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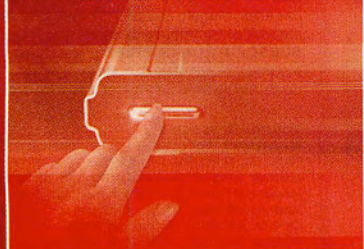
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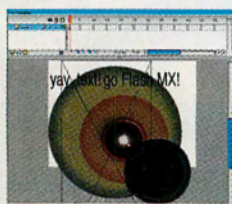


# the disc

Before you plop down \$999 for Macromedia Studio MX 2004's pro edition, pop this month's Disc into your Mac and take the latest and greatest versions of Dreamweaver, Flash, FireWorks, and FreeHand for a test drive—and if there's something creative they can't do, we're willing to bet Canvas 9 can.

## Macromedia Studio MX 2004 trial

So many apps, so little time. This quartet of power players is sure to make your Web site an eye-grabber.



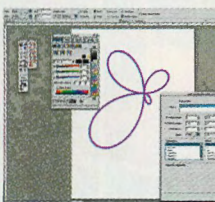
## Neverwinter Nights demo

This visually stunning role-playing game's universe is enormous and filled with goblins, wolves, zombies, dragons, and more. Good luck.



## Canvas 9 demo

Deneba's Canvas has earned its reputation as the world's most versatile graphics app—version 9 takes its many capabilities even further.



## on the Disc

### AUDIO & MUSIC

iPodRip 2.4.2  
Sofa 0.6fc3

### DEVELOPMENT

Dreamweaver MX 2004 trial  
eZediaQTI 1.0.1 demo  
Flash MX Professional 2004 trial  
REALbasic 5.2.1 demo

### FUN & GAMES

Neverwinter Nights demo

### GRAPHICS & MULTIMEDIA

Canvas 9 demo  
CoverStar 1.0.8  
Directors Boards 1.1  
EXIF Viewer 2.1  
FireWorks MX 2004 trial  
FreeHand MX 11 trial  
Metadata Hootenanny 1.0b1

## Staff Video: Love Is a Many-Splendored Thing

Take a stroll down Mac memory lane, and follow one woman's undying love affair with her Macs through the years.



### UPGRADE

If you don't receive the Disc with your copy of MacAddict, you might want to consider upgrading. Each monthly disc contains cool demos, useful shareware and freeware, and the inimitable MacAddict Staff Video. To get 12 issues of MacAddict that include this value-packed disc with your subscription (prorated if necessary) for just \$1 more per issue, call 888-771-6222—the operator will take care of everything.

## HEAT HIT

Macromedia Studio  
and you are holdin'

# MacAddict

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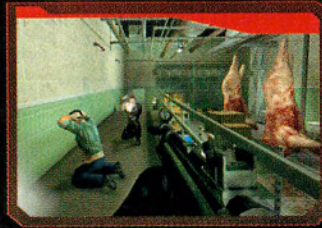
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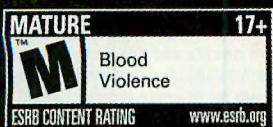
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# For All You Do...

Thanks for all the help.



This month, the Mac turns 20—and so does the dedicated community of Mac addicts that has grown up with it. This anniversary is the perfect time for each of us to thank the generous folks who guided us to the Macintosh way. I'll start.

My Mac life began a few days before the first Mac was announced. Larry Shaw, an electronics genius and coworker at the Exploratorium—a museum of science and art in San Francisco—somehow got his hands on a schematic drawing of the Mac. Together with the Exploratorium's computer guru, Ron Hipschman, we pored over that document like it was

the map to our future—which, in my case, it was.

From the Exploratorium, I moved on to *MacUser* magazine, where Jeff Pittelkau and Stephan Somogyi patiently led me from ignorance to true Mac enlightenment. I still remember the happy day when Jeff officially pronounced me a geek. I had arrived.

At *MacUser*, I established friendships with members of the Mac vendor community such as Karl Seppala of Sonnet Technologies and Mike Mihalik of LaCie, who to this day are willing to drop whatever they're doing and explain some arcane hardware intricacy to me.

And, of course, there are the gazillion Apple folks who've helped me out over the years. Among them are Nathalie Welch at Apple PR, who actually answers my voicemails; Frank Casanova, the QuickTime wizard who once got me stumbling drunk in Tokyo's Roppongi nightlife district; and the most unflappable human being on the planet, Keri Walker, head of Apple's Product Review Loan Program.

My thanks also to dedicated Mac civilians such as Lorene Romero, Stephen Henry, Jim Dickenson, Deborah Ramos, Paul Cornwall, and Susan Curry of California's North Coast Mac Users Group; Tom Santos and Fred Ihde of Macadam, San Francisco's most entertaining Mac store; and John Andrews of Happy Mac (our town's friendliest mom 'n' pop Mac repair shop), who lent us Macs for this month's celebration of the Mac's 20th birthday (see page 20).

And then there are all of you readers. I've learned a ton from your ideas and your questions, and I hope that more often than not you've seen your ideas brought to life and your questions answered within these pages. After all the Mac community has done for me, it's the least I can do to reciprocate.

Enjoy,

*Rik*

## coming soon: february 2004

Our editors fill you in on what they're preparing for the next issue of *MacAddict*.

### FEATURES: Ultimate Hardware Guide

We'll bring you an in-depth look at how to get the most from **Adobe's new Creative Suite**. Plus, which G5 should you buy? Is a G4 enough for what you need? How can you **get the most hardware bang for your buck**? And how do you upgrade and repair these bad boys? It's all in our **ultimate hardware guide**.—Cathy

### HOW TO: Pimp Out Your Mac

We can't wait to see Niko's latest case-mod project: He'll show you **how to pimp out your Mac**. We'll also show you how to **use the Terminal to troubleshoot troubles** instead of relying on unpredictable disk utilities. Plus: another **lesson in REALbasic programming**.—Kris

### REVIEWS: Adobe Creative Suite

Creative? Sweet! That's right, Adobe's family of 800-pound graphics gorillas, **Creative Suite**, is on deck, along with **Poser**, which does one of the few things Adobe's CS doesn't: character modeling and animation. Plus, our gadgeteers are toting around the **latest handhelds from Palm and Handspring**.—Niko

### NEWS: People, Products, and Media Cards

We're scouring the world for **new gadgets, new games, and new newsy tidbits**. You'll meet the latest and greatest **people and products** from the Mac community, and that **media-card round-up** we promised you last month finally will spring to life in February. —Narasu

## STAFF RANTS

**Q:** Who had the greatest influence on your Mac life?



### Jenifer Morgan LIONESS OF SEVILLE

**Who had the greatest influence on your Mac life?**  
The Bishop, CA, Lions Club. A generous scholarship from the Lions Club allowed me to purchase my first Mac. It introduced me to opera (*Bugs Bunny's rendition of The Barber of Seville* was my startup chime), and—more importantly—impressed a “totally hot” guy in my dorm.



### Peter Marshutz DOWNWARDLY MOBILE

**Who had the greatest influence on your Mac life?**  
The person who first introduced me to a Mac was my mother. I started playing around on her work machine and ended up with a new career.



### Cathy Lu REBEL WITHOUT A KLEZ

**Who had the greatest influence on your Mac life?**  
The good people at Yack.com and the loser who wrote the Worm virus had the biggest influence. After using a PC at Yack.com for a year—and having my hard drive wiped clean by a virus—I learned how superior Macs are.



### Niko Coucouvanis AIMLESS DRIFTER

**Who had the greatest influence on your Mac life?**  
That'd be a fellow by the name of Duke Nukem. He helped me forget about all my flesh-and-blood friends, and find fun and companionship—and yes, even comfort—in the solitary glow of a 14-inch Apple Multiscan display.



### Narasu Rebbapragada INDEBTED

**Who had the greatest influence on your Mac life?**  
My parents. They bought me my first computer, an Apple II plus, and later, a Mac SE. Technically, I purchased my LC II—but I sent the bill to my parents.



### Mark Rosenthal MARQUIS DE ALBANY

**Who had the greatest influence on your Mac life?**  
In descending order: C. D. ROM, E. L. Fudge, T. S. Eliot, P. B. Jay, P. T. Barnum, K. C. and the Sunshine Band, I. P. Freeley, Fred Sanford, C. S. Lewis, I. M. Kneady, E. B. White, T. J. Maxx, B. A. Hero, L. A. Fant, M. T. Head, O. I. Lostit, R. U. Tigilich, S. S. Titanic, N. A. Bind, and lastly, T. V. Gyde.



### Kris Fong FORMER COMPUTERPHOBE, NOW MAC ADVOCATE

**Who had the greatest influence on your Mac life?**  
Former *MacAddict* editor Andrew Tokuda (aka Digital Doo) was my band-mate and convinced me to buy a Mac because they were the best for recording music. He then shoved copies of *MacAddict* in my face to show me all the cool things I could do with it—and how weird magazine editors can be.



### Max OVERDRESSED SEVEN-YEAR-OLD

**Who had the greatest influence on your Mac life?**  
Not just in my Mac life but in my entire life, that would be Adam Vanderhoof, a former assistant art director at *MacAddict* who brought me to life in September of 1998.



# Heard any good music lately?



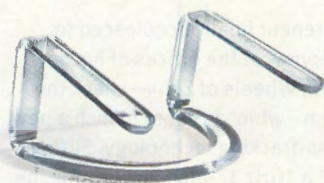
**The PowerWave** USB Audio Interface & Desktop Amplifier is a powerful and extremely flexible computer audio tool. With it you can record any mic or line input into your computer. Record your entire album collection to make CDs or MP3s. Hook-up a mic and musical instrument and turn your computer into a recording studio.

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- Creates room on the desktop for an external keyboard and mouse
- Keeps laptop cool with max air circulation

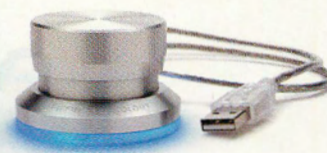
\$35



## iTrip FM Transmitter for iPod

- Play your iPod's music through any empty FM radio station from 87.9 to 107.9
- iPod powered - no battery necessary
- Fits snug to top of iPod - no messy cables

\$45

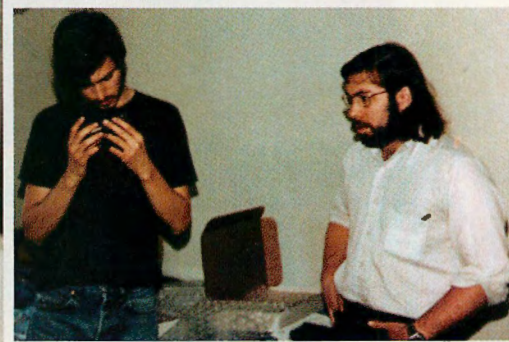
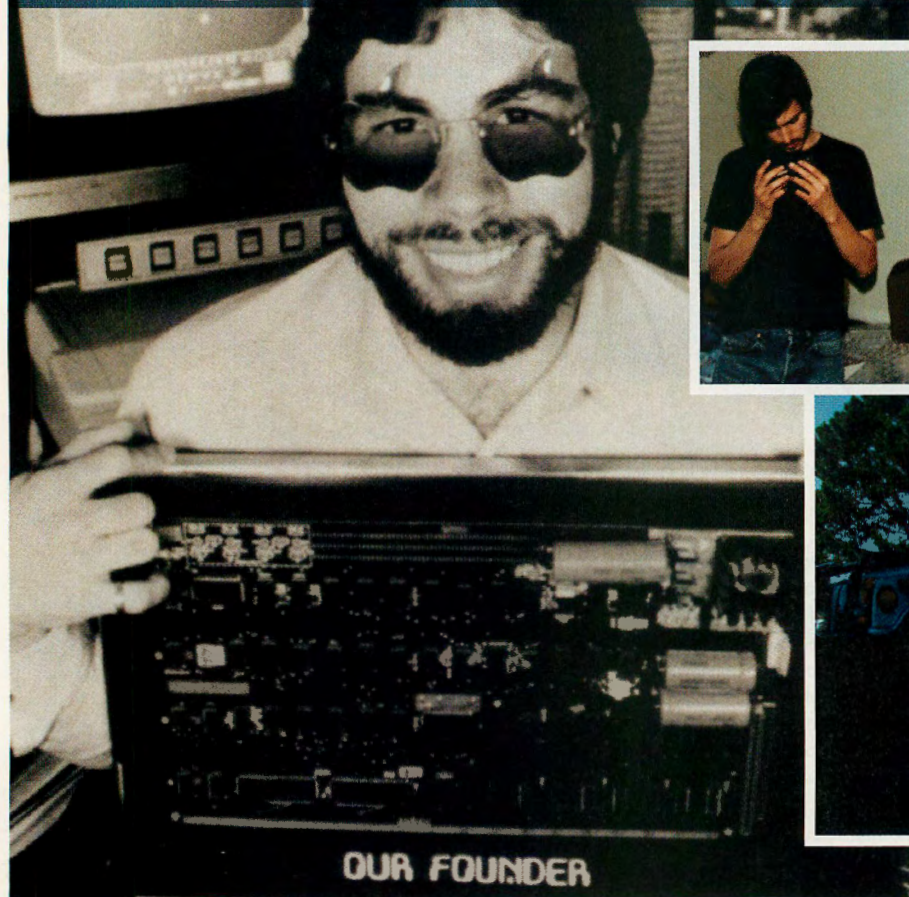


## PowerMate USB MultiMedia Controller Knob

- Now in Brushed Aluminum and Black
- Great control for iTunes or iMovie
- Programmable for any application
- Replaces repetitive keystrokes



## WOZ THIS WAY



## A Nostalgic Stroll with the Cofounder of Apple Computer



by Narasu Rebbapragada

**W**hen we first asked Steve Wozniak for an interview, he politely blew us off. At the time, the cofounder of Apple Computer was sitting in his private box at the Shoreline Amphitheater in Mountain View, California, listening to a Neil Young concert. His eyes, however, were focused on the game of Tetris he was playing on his Nintendo Game Boy (original edition).

We approached him again after the show at the VIP bar, where he was giving test rides on a Segway Human Transporter (he owns nine of them). Again, we didn't get the interview, though we did slalom nicely through a set of orange cones.

The playful, tech-obsessed

entrepreneur finally acquiesced to an interview at the offices of his new start-up, Wheels of Zeus—check the acronym—which is set to launch a new wireless-tracking technology. Sitting behind a 1GHz 17-inch PowerBook, he spoke candidly about the Mac, Steve Jobs, and a prank call to the Pope.

**ON THE MAC**

**How many Macs have you used in your lifetime?**

I don't know, 200.

**What's your favorite Mac of all time?**

The [PowerBook] Duo 230, the first color one. It's just small enough and light enough to carry anywhere, and



it can plug into the Internet so easily. Second to that would probably be the whole Titanium [PowerBook] series for looks and portability. It worked really well for me, but I don't recommend it to anyone. It gets too easily scratched. I think the aluminum PowerBook is a lot better, but it's not the machine you fall in love with, it's just the perfect good PowerBook that doesn't get hurt.

#### Is there any Mac you thought was a real dud?

Some Performas seemed to me like they wouldn't interest me, so I might call them duds.

#### Which Mac was the most technologically important?

Something around the Mac Plus or the Mac SE, where we had the SuperDrives in them. (*No, Woz isn't crazy: The 1.44MB floppy drive in the Mac SE was named the SuperDrive.*—Ed.) I think from that day on, my computer life was better.

#### What's the best computer Apple ever made?

I still think the [Power Mac] 8500 was the best computer Apple ever made. It just kept lasting and lasting and working and working.

#### What do you think of Mac OS X?

I use OS X and I trust it, but I never got back to the same levels of satisfaction, ease of use, and shortcut workarounds that I had with Mac OS 9.

### ON STEVE JOBS

#### When did you meet Steve Jobs?

We were introduced by a mutual friend, who lived a few houses down from me in Sunnyvale. I had actually designed a little computer in 1970—five years before the Altair [8800] build-it-yourself kit computers—with a friend a few houses down. My friend said, "I've got to call Steve Jobs over because you two have something in common: You're interested in electronics and you both are kind of pranksters," so he introduced us. That was Bill Fernandez. He was Apple's third employee. His mother is [Apple's Chief Software

## FACTS ABOUT WOZ



### STOPPED ON SEGWAY

Last summer, a motorcycle cop told Woz he couldn't continue to ride across San Francisco's Golden Gate Bridge on a Segway.

### DIAL-A-JOKE PIONEER

Woz says he started the first telephone dial-a-joke service in the San Francisco Bay Area. One of the numbers he used was 255-6666, which is one of the reasons the Apple was priced at \$666.66.

### BACK IN THE U.S.S.R.

Woz says he funded the first televised satellite broadcast between the Soviet Union and the United States in the early 1980s.

### BLACKLISTED

Woz had been in *Nintendo Power Magazine's* High Score section so many times with his Tetris high score, that the magazine refused to print his name again—so he sent it in spelled backwards.

### FAVORITE SONG

Simon and Garfunkel's "The Boxer."

### WHY iTunes DEMOS FEATURE SO MUCH BOB DYLAN

When Jobs and Wozniak started Apple, they decided Bob Dylan wrote some of the most important music of their generation.

### FAVORITE MOVIE

It's a toss-up between *The Matrix* and *The Lord of the Rings: The Two Towers*.

### EMAIL PREFERENCE

Woz prefers Eudora to Mail because of its programmable button bar and AppleScriptability.

# Goes anywhere.





continued from p.13

Technology Officer] Avie Tevanian's secretary. (Bambi Fernandez currently supports Software Engineering Vice President Bud Tribble and Senior Vice President Bertrand Serlet, in addition to Tevanian.—Ed.)

### What is Jobs like?

He always seems to make the most sense. He's clearly thought out. He's looking at the things that are important and not shadowed by all sorts of little tidbits that aren't as important.

## ON THE POPE

### Is it true that you phoned the Pope?

It was my junior year of college at Berkeley. Steve and I had stumbled on how to build little blue boxes [tone generators that enabled free—and illegal—phone calls], so we could kind of start dialing all over the world.... I called Italy and asked for the Rome operator and asked for the Vatican operator and got there. I said, "This is Henry Kissinger and I'd like to speak to the Pope. I'm with Richard Nixon. We're at the summit in Moscow."...They put on the bishop who was going to be a translator and he said he had just talked to Henry Kissinger. Oops.

### So you did this with Steve Jobs?

Yeah, he'd just drive up from Los Altos and visit the dorm room.

## ON iTUNES

### What do you think has been the most significant recent Apple technology?

iTunes really did it well. iPhoto is equally significant but I hold something against it. It threw away all my photos once.

### What about the iTunes Music Store?

It's very well done but totally misses the mark for me. I write down everyday between 1 and 10 songs and I've got to find these songs. There are only two songs that I heard on the radio that I found on Apple's store. One was Donovan's "Catch the Wind" and one was Gordon Lightfoot's "Sit Down Young Stranger." I think it's a good direction. [Music] is a big part of your life. I believe in the digital hub representation of what we're using the computer for.

# APPLE LAUNCHES iTUNES FOR WINDOWS

## Top 10 Reasons Why Mac Users Should Care

Here's why you Mac addicts should care that Apple announced iTunes and iTunes Music Store for Windows 2000 and Windows XP in October 2003.

- 10 MacAddict editors got to see the live Sarah McLachlan concert that culminated the special event (and you should be happy for us).
- 9 U2's Bono, live from Dublin on iChat AV, spewed accolades about iTunes and said, "That's why I'm here to kiss corporate ass."
- 8 Bono renamed himself iBono for the day.
- 7 Your PC friends can use iTunes Music Store gift certificates to give you \$20 to \$200 toward the purchase of new tunes. (So can your Mac friends.)
- 6 Ditto on the Allowance feature for gifting you \$20 to \$200 monthly.
- 5 The chance to nab the PC market gave Apple the incentive to bump up music content to 400,000 tunes, sign 200 independent labels to contribute music, and strike a deal with Audible.com for exclusive rights to 5,000 audio books.
- 4 It gives the 25 million AOL users a reason to live, and the chance to buy iTunes Music Store tunes 'n' books directly from the AOL Music page.
- 3 You can watch your Coke-or-die friends dry heave while buying bottles of Pepsi for the 1 in 3 chance of winning a free song on iTunes Music Store. (Apple and Pepsi struck a deal where Pepsi is giving away 100 million iTunes songs on the inside of bottle caps.)
- 2 Users can kiss Microsoft's proprietary WMA format goodbye. Now that they can freely burn Apple iTunes high-quality AAC format, they don't need it.
- 1 Because now that Apple makes PC software, it's safe to go to Hell. It has finally frozen over.



Yes, this is iTunes for Windows. Yes, you should give a damn.



Carries  
anything.

## WHAT'S INSIDE A SUPERCOMPUTER?

Tech Tidbits on the Virginia Tech G5 Cluster

As we reported last month (*Get Info*, Dec/03, p13), Virginia Tech has built the largest-ever Mac-based supercomputer cluster out of 1,100 Dual 2GHz Power Mac G5s, each with 4GB of RAM. Here are some little-known facts about what it took to build it.—Alan Graham

### INSIDE THE G5 SUPERCOMPUTER

- ➔ 4.4TB RAM—that's 37,795,712,205 times more than the original Mac (See "A Celebration: 20 Years of Macintosh," p20.)
- ➔ 176TB disk space—that's 12,094,627,906 times more than the original Mac
- ➔ 17.6 trillion operations per second theoretical peak performance

### CHA-CHING

- ➔ The total budget was \$5.2 million.
- ➔ The total cost of the G5s was nearly \$2.75 million—that's \$2,493 per Mac. (They must have gotten a discount for foregoing 1,100 mice and keyboards.)

### CONSTRUCTION

- ➔ The cluster took eight weeks to build.
- ➔ Engineers spent more than six weeks on software.
- ➔ Over 150 volunteers helped unload and rack the G5s.

### HOT, HOT, HOT

- ➔ The Liebert's Extreme Density rack-mounted air-cooling system uses 1,000 pounds of R-134a refrigerant for efficient cooling.
- ➔ An addition cooling system pumps 1,500 gallons of chilled water per minute to cool down the heated air generated by the Liebert system.

### POWER

- ➔ The cluster and its cooling system uses 1.5 megawatts of power—that's enough to power 3,000 homes.
- ➔ Each machine will peak at 725W.
- ➔ The total cluster peaks at more than 800 kW at full load.

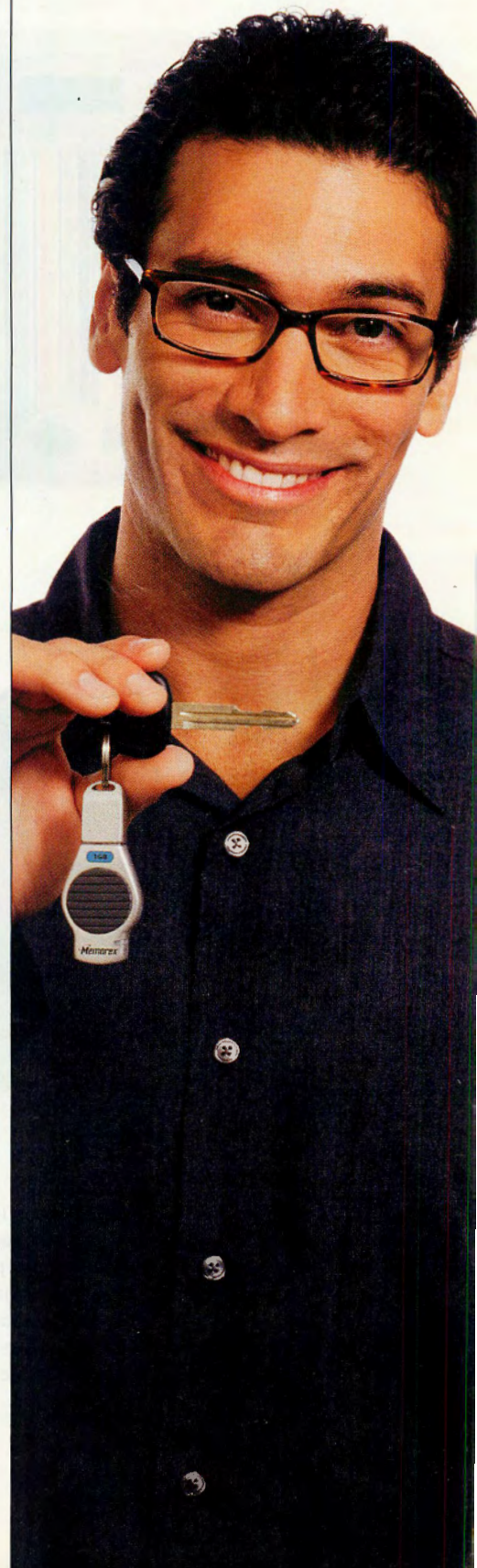
### WEIGHT

- ➔ The G5s alone weigh more than 22 tons. Add the racks to which they're mounted and the rack-mounted cooling system, and the cluster weighs in at more than 36 tons—that's equal to more than 200 Shaquille O'Neals.

### CABLES

- ➔ The cluster uses over four miles of Infiniband cables and over five miles of Cat 5e Ethernet cables.

PHOTOGRAPH BY ALAN GRAHAM





## DROOLWORTHY

Sexy Stuff We Can't Wait to Get Our Mitts On



### ← Phone in Style →

**Sony Ericsson's Z600** (price TBA, [www.sonyericsson.com](http://www.sonyericsson.com)) is a tri-band GSM/GPRS phone with stylish snap-on covers. Take photos with its built-in digital camera, and then wirelessly send them to your Mac via Bluetooth. Musicians in the house will like the Z600's four-track music creation tool for composing polyphonic ring tones. The Z600 should be out by the end of the 2003.



PHONE PHOTOGRAPHY COURTESY OF SONY ERICSSON



### ↑ Listen in Style

Hitch your iPod to **Altec Lansing's inMotion Portable iPod Speakers** (\$149, [www.store.apple.com](http://www.store.apple.com)), currently available only at Apple Stores. This battery-powered system charges your iPod either via its dock or its FireWire connector, allows you to sync data with your Mac, and uses the iPod's alarm (if enabled) to double as an alarm clock.

SPEAKER PHOTOGRAPH BY MARK MADEO



## NEW STUFF

### NEW PROSUMER CAMCORDER

**What it is:** This upgrade to the popular Sony VX2000 improves shot quality in low light and offers better color fidelity, 16:9 widescreen recording, as well as 12x optical and 48x digital zooms.

**Why it's cool:** This high-end prosumer camera is buff enough to shoot your next Sundance sleeper.

#### DCR-VX2100 MiniDV Handycam

\$3,000 street  
Available: December 2003  
Sony  
[www.sony.com](http://www.sony.com)



### NEW INKJET INKS

**What it is:** Pantone is launching a series of ink cartridges, paper, and drivers based on its industry-leading color definition system. The products will initially work with a handful of professional and prosumer desktop Epson printers, with support for more Epson and non-Epson printers to follow in 2004. Epson is not selling, endorsing, or supporting the Pantone inks as of press time.

**Why it's cool:** Pantone is attempting to break the monopoly printer companies have on high-priced inks. Epson and others are sure to balk.

#### Pantone ColorVantage

\$251 to \$605 (starter kit),  
\$63 to \$100 (individual ink  
cartridges)  
Available: November 2003  
Pantone  
[www.pantone.com](http://www.pantone.com)

### MP3 PLAYER UNDER \$50

**What it is:** These USB flash drives double as MP3 players. They support MP3 (and WMA) files and come with a five-preset EQ. Mac users can transfer music to and from the player by dragging and dropping tunes in the Finder. The SA100 doesn't support iTunes.

**Why it's cool:** You can't beat the price—let's hope it's a quality product.

#### SA100

\$49 (64MB), \$79.99  
(128MB), \$TBA (256MB)  
Available: November 2003  
Auv  
[www.auviworld.com](http://www.auviworld.com)

### BRIGHT LIGHT! BRIGHT LIGHT!

**What it is:** With eight white-light LEDs, two brightness settings, and a flexible neck, this USB light shines bright.

**Why it's cool:** We're suckers for gadgets—especially ones that can light up those dark ports under your desk.

#### USB FlexLight

\$19.95  
Available: Now  
logear  
[www.logear.com](http://www.logear.com)



### FTP BY EMAIL

**What it is:** Creo's Token system lets you use email to share large files that would normally require upload to an FTP site. Token Creator bundles files and sends them as an email that's only a few kilobytes in size (a token). The email recipient uses the free Token Redeemer to open the Token, which then grabs the files from your hard drive.

**Why it's cool:** It's the cheap way to send big files without setting up an FTP server. Creo also offers a server edition.

#### Token Creator

\$49 (single user), \$595  
(server edition)  
Available: Now  
Creo  
[www.creo.com](http://www.creo.com)

### CHEAP INKJET

**What it is:** This low-priced USB inkjet prints at an optimized 5760 by 1440 dpi, has four individual ink cartridges, and prints standard business paper sizes as well as 8-by-10-inch and 4-by-6-inch photo sizes. Only the 4-by-6-inch size has a borderless option.

**Why it's cool:** Although Epson's Stylus C44 is about \$20 cheaper, it doesn't have the Stylus C64's individual ink cartridges or borderless 4-by-6-inch printing.

#### Epson Stylus C64

\$59  
Available: Now  
Epson America  
[www.epson.com](http://www.epson.com)



# Fits everyone.





## THE SCOOP: UNREAL TOURNAMENT 2004

Straight from the Mouths of Developers



Unreal Tournament 2004  
Price \$49.99  
Available February 2004  
MacSoft  
www.macsoftgames.com

This third incarnation of the famous first-person shooter series adds a new game mode called Onslaught, plus enhanced weapons and kick-ass vehicles, while reviving the original game's Assault mode and sniper rifle. We talked to MacSoft's Al Schilling and Epic Games' Ryan Gordon for the scoop.—NR

### Describe Onslaught.

**AS:** In Onslaught, there are two bases separated by multiple nodes, which are connected by lines that change color. If your team controls two adjoining nodes, the line changes to your team's color. You work your way across the map to get a node of your color connected to the enemy base, [which you then] attack and destroy to win the game. By nature, Onslaught requires very large maps. You may respawn a fair distance from where the action is. This is where the new vehicles come into play. They get you back to the action quickly and with a lot of firepower. (See "Killer Vehicles," right.)

### What's new in multiplayer?

**AS:** Onslaught and the return of Assault [game mode], which was absent from UT 2003 but makes a triumphant return in UT 2004.

### How is gameplay different in UT 2004?

**RG:** If you're playing Onslaught or Assault, you need to take into account that your opponent can be coming



Freeze or I'll shoot! I'll shoot anyway.

at you with anything from an assault rifle to an armored tank. Instead of running toward you, they might be



Unreal Tournament 2004's got new weapons, new vehicles, a new game model, and did we mention new vehicles?

flying over your head. Plus, there are new weapons that alter the strategy. You can leave spider mines in strategic places that will ambush a player when he stumbles upon them.

### What's new in weapons?

**AS:** UT 2004 adds dual assault rifles along with redone weapon models.

### Is there a level editor in the Mac version?

**AS:** No. (That's not what we wanted to hear, Al.—Ed.)

### What kind of Mac will we need?

**RG:** This time around, the CPU is going to be more important than the video card, since the vehicle physics are computationally expensive. The graphics aren't going to take such a dramatic leap forward as they did between UT1 and UT 2003 (*translation: The faster your Mac, the better.*—Ed.).

## KILLER VEHICLES

Unreal Tournament 2004's new wheels make for a deadly joyride.

**HOVERCRAFTS** These skim the ground, fire lasers, and have rotors that work like human-munching lawnmowers.

**BOMBERS** Death from above. These can also hover, just at a higher altitude.

**ARMORED TANKS** When you absolutely must clear everyone in the room.

**JEEPS** For the Halo fans: There's room for a gunner (on the back), a passenger, and a driver.

**MOUNTED GUN TURRETS** These keep the kids off your lawn.

**SPACESHIPS** For assault maps with deep-space dogfighting.

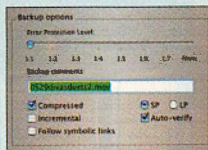


SHAREWARE **PICK OF THE MONTH**

## BACK UP TO YOUR CAMCORDER

**DV Backup** [www.coolatoola.com](http://www.coolatoola.com) \$30

DV Backup turns your digital camcorder (DV or Digital8) into an affordable tape backup system, letting you archive up to 15GB of data onto a single one-hour DV tape. Just drag your files or folders to DV Backup's Table Of Contents window and choose how much error protection and data compression you want. Through the magic of FireWire, DV Backup controls your camcorder's buttons to make automatic backups.—*Andrew Tokuda*



Create compressed backups and store them to tape.



## FIVE TIPS FOR USING FINAL SCRATCH

From International Mega-DJ Paul Van Dyk

Tokyo. London. New York. Ibiza. Miami. One of the best-known DJs the world over, Paul Van Dyk, has gone digital. He spins electronic dance music using a 1.24GHz PowerBook G4 with Final Scratch and Logic Audio. Here's how this Mac addict uses Final Scratch to get big sound in the world's biggest clubs.—*NR*

### THE SPICED-UP SYSTEM

Van Dyk installed a 60GB hard drive on his PowerBook G4 and carries an external 80GB FireWire with additional music on it. On average, he brings about 40GB of music to a set.

### THE ORGANIZED VIRTUAL RECORD BOX

When a DJ is spinning live, finding records fast is everything. Rather than sort through hundreds of cryptically named files, Van Dyk uses Final Scratch's virtual Record Boxes to organize tracks by style. "I have one box where I put new things, then I have one box with a few classics," says Van Dyk, who uses nine virtual record boxes.

### NO ON MP3

Regarding MP3s, Van Dyk says, "I think the sound is pretty shady." Digital audio that sounds good on your home stereo can sound like crap on the mammoth sound systems in clubs.

### YES ON HI-RES AIFF

Van Dyk "spins" high-quality 16-bit or 24-bit AIFF files from his hard drive during live shows. When he finds CD tracks he likes, he rips them to his hard drive and remasters them so the music sounds even richer.

### CDS BUY TIME

Rewiring a DJ booth for Final Scratch can take time at first, so Van Dyk starts his sets out with CDs to make time for connecting everything.

DJ Paul Van Dyk reveals five tips on spinning digitally with a PowerBook and Final Scratch.



Introducing  
the Memorex  
ThumbDrive.  
A whole new  
way to carry  
your files.



Whether you're looking for performance or style, the Memorex ThumbDrive® wins hands down. Incredibly small and durable, this beautifully sculpted drive represents the very best of Flash technology. With capacities ranging from 128MB to 1GB, it transfers tons of photos, music or data at rates up to 50% faster\* than competitive USB™ 2.0 products. And the USB connection means it's compatible with both PC and Macintosh®, as well as many portable electronic devices. The go-anywhere, carry-everything, sleekly-styled ThumbDrive from Memorex—this thumb deserves a hand.



**Memorex®**  
Is it live or is it Memorex?™

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All trademarks and registered trademarks are of their respective owners  
\*Based on competitive published information



A CELEBRATION

20 YEARS OF

# MACINTOSH

From amazing products to ones that never should have seen the light of day, raging successes to near-death experiences, the last 20 years have been a long and joyous—and bumpy—ride.

BY EMORY CHRISTENSEN

MAC PHOTOGRAPHY BY MARK MADEO

When did the first CD player arrive in the U.S. of A.? What year did digital cell phones grace our shores? How long ago did the first kernels of microwave popcorn torment hapless coworkers with their seductive scent? You probably don't know—though *Jeopardy* junkies will immediately answer 1983, 1990, and 1946, respectively. But it doesn't matter. Although all of these were technological revolutions at the time, they quickly became relatively mundane commodities.

The Macintosh is different. Maybe it's the convoluted corporate soap opera behind the computer. Or perhaps it's a subliminal command in the Mac startup sound. But whatever the reason, the Mac has carved a special place for itself in pop culture. And in our hearts.

And now the Mac has turned 20—almost old enough to drink without a fake ID. To celebrate, we put together a visual history of the Mac, commemorating both good times and bad—and there have been plenty of both. For many of you Mac addicts, here's a trip down memory (or amnesia) lane. For the rest of you, here's the low-down on the up-and-down, often-insane history of the world's greatest personal computer.



ON THE  
DISC  
MacTracker 2.0.6







# LABOR PAINS

**O**n January 24, 1984, Apple gave birth to the Mac—and to a 20-year legacy of making the best damned personal computers on the planet. The Mac and its killer graphical user interface—or GUI, pronounced “gooey”—grew out of a previous Apple computer named the Lisa, which was the Mac equivalent of the older, uglier, unmarried sibling nobody likes to talk about. Steve Jobs borrowed (some nonbelievers would say stole) concepts such as the GUI and the mouse from the Xerox PARC research facility’s visionary Alto computer. These concepts ended up in the failed Lisa project—and then in the Macintosh.

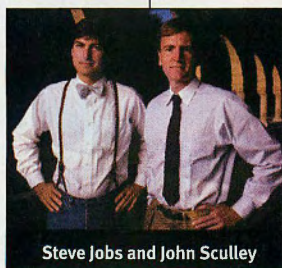
And like any family—especially one with a precocious child—Apple had its share of dysfunctional fun. During the run-up to the Mac’s unveiling, Jobs enticed John Sculley to leave Pepsi-Cola and become Apple’s president and CEO (big mistake, Steve). Sculley and Jobs

clashed almost immediately. Rumor has it that Jobs thought Sculley didn’t understand the computer industry, and that Sculley thought Jobs was a loose cannon—turns out they were both right. The

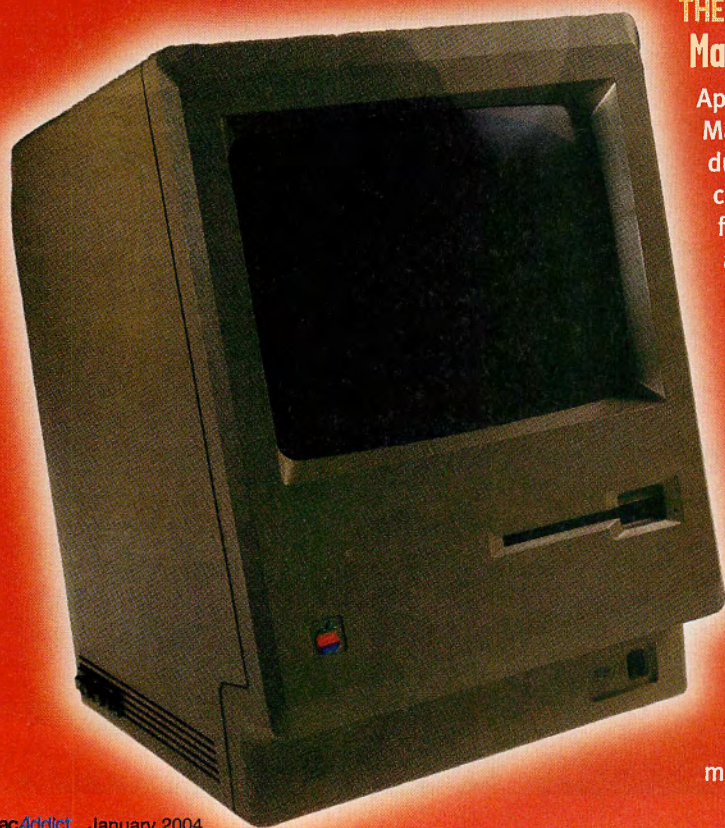
fallout? Apple’s board sided with Sculley, and Jobs left Apple in mid-1985 to start another computer company called NeXT. And you thought *your* family get-togethers were interesting.

In the end, however, things didn’t turn out so pretty for Sculley. In 1985, he presided over large layoffs (over 1,000 employees) and oversaw the company’s first quarterly loss. He also signed an ill-conceived deal with Bill Gates in which he licensed the Mac’s look

and feel for Windows 1.0. Unfortunately, a clause in the contract also gave Microsoft the go-ahead to use pretty much any look-and-feel elements in all of its future programs, later scuttling an Apple copyright infringement lawsuit against Microsoft. Damn.



Steve Jobs and John Sculley



## THE MAC THAT SAYS IT ALL Macintosh (1984 to 1985)

Apple introduced the world to the original Macintosh (now known as the Mac 128K) during the famous 1984 Super Bowl commercial directed by Ridley Scott that featured a woman in running shorts smashing a Big Brotheresque control screen with a sledgehammer. The Mac 128K featured an 8MHz Motorola 68000 processor, a 512-by-342-pixel monochrome display, and a then-revolutionary 3.5-inch 400K disk drive—and don’t laugh: That was 40K more storage than the then-de rigueur 5.25-inch floppies. But what made the original Mac truly revolutionary was its graphical user interface and its mouse.

**Why It Mattered:** This was the machine that started it all, the mother of all Macs. Some of its design concepts—such as the mouse and the graphical user interface—are present in every personal computer sold today. Properly sealed, the 128K case still makes a great fish tank.



## THE KEEPERS

### Macintosh Plus (1986 to 1990)

The Mac Plus was the first expandable Mac. You could stuff it with up to 4MB of RAM (hey, it was 1986—give 'em a break), and it was the first Mac to feature a SCSI port. No Apple Desktop Bus (ADB) yet, though. ▼



### Macintosh II (1987 to 1990)

While the original Mac was criticized for its lack of expandability, the Macintosh II kicked serious expansion butt, with six NuBus expansion slots and eight RAM slots (for up to 20MB of RAM). The Macintosh II featured a 16MHz 68020 processor (with optional math coprocessor), plus it was the first Mac able to display color—and it was those color capabilities more than its expandability that made it the cool kid on the block.

## THE STINKER

### Macintosh Office (1985 in theory)

Uh, it seemed like a good idea at the time. Create a system that included networking, a laser printer, and a file server, and then package it for office use. What could go wrong? First, the file server never shipped. Second, the commercial to promote the product was a stinker: Called Lemmings, it featured a line of blindfolded businesspeople marching off a cliff. Likening potential customers to suicidal mammals probably wasn't the best sales tactic.



## SOFTWARE DEVELOPMENTS

- ➔ Macintosh system software progressed from System 1.0 to System 4.2 during this time.
- ➔ Microsoft, an early and active Macintosh software developer (among other things), released Word, Chart, and BASIC for the Mac in 1984. It released Excel in 1985, to the excitement of spreadsheet junkies everywhere.
- ➔ In late 1985, Sculley signed an agreement with Microsoft to allow Mac technology to be used in Windows 1.0, which was a steaming pile of goat custards compared to the Mac's system software.
- ➔ In 1987, HyperCard (Apple's stack-based programming

utility) made its way onto the scene, allowing your average joe to create powerful applications without having to learn Pascal. Classic example: the exploration game, *Myst*.

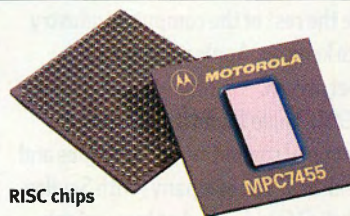
- ➔ In 1987, Steve Jobs bought Pixar for \$10 million from George Lucas. Not a bad investment in retrospect.



Cyan's *Myst*

## THE WORLD OF TECHNOLOGY

- ➔ IBM was pushing its own personal computers (which debuted in 1981), spurred in part by the success of the Apple II. In 1980, believe it or not, Apple held 50 percent of the personal computer market.
- ➔ Grolier's Electronic Encyclopedia, the first general-interest CD-ROM, appeared in 1985. The encyclopedia, at nine million words, took up only 12 percent of the CD's available space.
- ➔ In 1986, the first RISC-based (reduced instruction set computing) workstations found their way out of



RISC chips

IBM's labs and into the market. (RISC is the power behind PowerPC chips.)

- ➔ Intel introduced the 32-bit 80386 processor in 1986.
- ➔ In 1988, a worm written by 23-year-old Robert Morris infected ARPANET—the precursor to today's Internet. Can't blame Microsoft security holes for that—at least not with a straight face.

## THE WORLD

- ➔ In 1984, doctors transplanted a baboon heart into 15-day-old Baby Fae, extending her life by only 21 days.
- ➔ Space shuttle Challenger exploded shortly after liftoff in early 1986. The Chernobyl nuclear power plant exploded just a few months later.
- ➔ *Star Trek: The Next Generation* debuted in 1987.
- ➔ 1988 was a sad year for physics geeks, and not just because of their lack of dating options: Richard Feynman,



Capt. Picard

### Did You Know?

Steve Jobs flew a skull-and-crossbones flag over the Macintosh project building—a symbol of a rebellion against the idea that computers were only for the technically savvy. As Jobs said at the time: "It's better to be a pirate than [to] join the Navy."



renowned physics lecturer and raconteur, died.

- ➔ This may (or may not) make you feel old: Today's college freshmen were born during this era.

**TIP**

If you're serious about learning Apple history, visit [www.apple-history.com](http://www.apple-history.com), which includes a capsule chronicle of Apple's corporate shenanigans, along with specs for every Mac ever built. Also check out the cavalcade of Macs in MacTracker, which you can find on this month's Disc or at [www.mactracker.ca](http://www.mactracker.ca).

The original Macintosh shipped with 128KB of RAM (that's right, KB not MB), which was mighty slim even by 1984 standards. The Dual 2GHz Power Mac G5 ships with 512MB of memory—the equivalent of 524,288KB. Amount of increase: 4,096 times greater. Wowzers!

MEMORY



# THE FIRST GOLDEN AGE

**A**fter a legendary labor and birth, Apple—and the Mac—entered its first golden age, still high off the Mac II's success and buoyed by the introduction of the dismal Windows 1.0. Apple also played a vital role in launching the desktop publishing revolution with the LaserWriter—and a little help from Aldus PageMaker. Now *anyone* could cram 23 flashy fonts onto a garage-sale flyer and print out a hundred copies. During this period Apple produced some legendary Macs, while the rest of the computer industry struggled to keep up. Apple was living a sweet, sweet dream.

But by 1991, Apple found itself facing a powerful group of competing technologies and business realities. The company (with Sculley still at the helm) faced a market increasingly dominated by PC clones, and Microsoft made things worse by releasing Windows 3.0 on May 22, 1990. Sure, Windows 3.0 sucked in comparison to the Mac OS (still does), but it was usable—and more importantly, it ran on a variety of hardware. Apple, on the other hand, was the only company making Macs, which reinforced its reputation for not playing nicely with the rest of the computing world. Apple's opportunity to dominate the computer market had passed, and Microsoft, IBM, and an army of clones would eventually push the Mac's market share to single-digit percentages. The suits had overtaken the Apple rebels.

Despite its troubles at the end of this golden age, Apple made some smart decisions. Apple teamed up with IBM and Motorola to form the AIM alliance (Apple, IBM, and Motorola). One mission of AIM was to produce RISC chips powerful enough to eat the competition for breakfast—with room for coffee and a bagel. This alliance went on to produce the PowerPC processor line, which is still going strong today: The G5 is the fifth-generation chip in that family.



## THE MAC THAT SAYS IT ALL Macintosh SE/30 (1989 to 1990)

Here's the workhorse of the original all-in-one Macs. Equipped with a 68030 processor, the SE/30 was the first compact Mac with an expansion slot and a built-in hard drive, and the first to support more than 4MB of RAM. Although touted as a 32-bit computer, the SE/30 ROMs were not *32-bit clean*—that is, they still used some 24-bit code and required a software patch to be fully 32-bit compliant and thus access more than 8MB of RAM. With the patch, the SE/30 could access up to 128MB of RAM.

**Why It Mattered:** The SE/30 represented Apple at its best. During these years, Apple produced some of the most innovative, long-lasting, and well-designed machines it ever created. Even today the SE/30 can pull its weight: With the proper Ethernet expansion card and the right flavor of Unix or Linux (such as NetBSD, Debian Linux, or MacMinix), an SE/30 is still a capable small-scale Web server. Long-time Mac heads get a little misty-eyed when the SE/30 is mentioned. Sniff.



## THE KEEPERS

### Macintosh IIci (1989 to 1993)

The IIci was a fast, expandable, color-capable Mac—and the first 32-bit clean Mac. It also had an optional 32K L2 cache for added oomph. In a Mac II first, the IIci featured onboard video. While snappy, this feature gobbled up valuable RAM and cramped the IIci's performance. Still, because of its solid design and expandability, the IIci became a publishing-house fixture, providing long and loyal service.

### PowerBook 170 (1991 to 1992)

The 170 was one of the first three PowerBooks Apple introduced. Where Apple got it all wrong with the Portable (see below), it got just about everything right with the PowerBooks. This was apparent especially in the keyboards (set back so as to provide a wrist rest) and built-in trackballs—features not found in PC competitors. At \$4,600, the 170 was king of the original line and featured an active-matrix display, a 25MHz Motorola 68030 processor, and a slot for an internal modem.

## THE STINKER

### Macintosh Portable (1989 to 1991)

This was Apple's first—and worst—attempt at a portable Mac. Nicknamed the Luggable, the Portable cost \$6,500, wasn't expandable, was based on a wimpy 8MHz 68000 processor (five years old and counting at the time), and weighed nearly 16 pounds. You would have been better off carrying an SE/30 and finding an outlet—at 19.5 pounds, it didn't weigh much more. Also, the Luggable's screen wasn't backlit, so you needed eagle eyes. Needless to say, the Macintosh Portable didn't go far—quite literally, since you could hardly lift it—but it did blaze the trail for the PowerBook line.

## SOFTWARE DEVELOPMENTS

→ In 1989, NeXT (with Steve Jobs at the helm) showed off its new operating system, NeXTStep, which would eventually become the heart of Mac OS X.

→ SimCity made its first appearance in 1989—and the world lost a year of productivity.

→ In 1990, Adobe shipped Photoshop 1.0 for the Mac.

→ Apple released System 7 in 1990 in answer to Windows 3.0. System 7 featured a new interface, introduced

TrueType fonts, and used full-time multitasking—finally, it could run several programs at once, at all times.

→ In 1991, Apple worked with IBM on the Pink project, a Mac-like operating system designed to run on both Macs and PCs. The object-oriented Pink was spun off as Taligent in 1992, where it morphed into a set of object-oriented programming frameworks. In 1998, IBM reabsorbed the technology, using it in a variety of developer tools.



Maxis's SimCity

## THE WORLD OF TECHNOLOGY

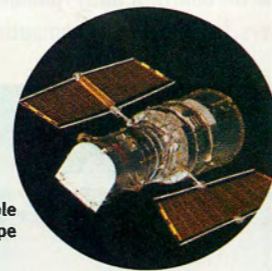
→ In 1989, Motorola announced the 68040 microprocessor (which didn't ship until 1990)—the last in the 680x0 processor line.

→ Time and Warner Brothers merged in 1989. The company would later merge with AOL and Netscape.

→ Also in 1989, Drs. Pons and Fleischmann trumped up cold fusion.

→ In 1990, NASA sent the Hubble space telescope into orbit.

→ Also in 1990, the first Web browser (called WorldWideWeb) appeared—no porn sites yet, though.



Hubble Telescope

## THE WORLD

→ The Berlin Wall fell in 1989, and by 1991 the Soviet Union had largely collapsed.

→ *Dances With Wolves*—released in 1990—proved that Kevin Costner could carry a nonbaseball acting role. Bearing his butt didn't hurt the movie either.



Pete Rose

→ Pete Rose was banned from baseball in 1991 for gambling on games as the otherwise-great game turned 100.

→ The first Gulf War erupted in early 1991.

→ In 1991, scientists launched the Biosphere II research facility—the biggest missed opportunity for a reality-TV show.

### Did You Know?

Rumor has it that Apple named the system sound Sosumi (which first appeared in System 7) for a potential lawsuit. Apple Records (the Beatles' record label) sued Apple Computer for bundling a microphone with the Mac IIx and LC, and thereby—according to the litigious Brits—turning Apple Computer into a "music production company" and infringing on Apple Records' name. Apple Records accepted a \$27 million settlement to drop the case.

**Seinfeld Meets the Simpsons** During this time, TV made two of its most important pop-culture contributions: the phrase "D'oh!" and a show about nothing. *The Simpsons* debuted in 1989 after a couple of years as a series of shorts on the *Tracy Ullman Show*. A year later, *The Seinfeld Chronicles*—later just *Seinfeld*—aired. People never looked at a donut or ordered their soup quite the same way again.



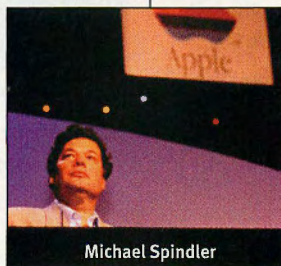
1992 TO 1995

# CRACKS IN THE FOUNDATION

**T**he squeamish among you may want to consider skipping ahead a few pages, because this era ain't pretty. Apple entered a troubled time in which it negated every killer product (such as the Power Macintosh 8100) with several crappy Performas sold through Sears. Performas were meant to be low-cost home multimedia Macs, and in 1995, Apple introduced more than 30 different models in a run-up to the Great Death Spiral of 1996.

Like those Performas, CEO John Sculley was not performing well. In mid-1993, Apple's board relieved him of his position, installing Michael Spindler (Apple's COO at the time) as the company's new head. Unfortunately, Spindler fared no better. Although he shepherded Apple through the transition from 680x0 to PowerPC processors (keeping Apple in the performance game), he also took the bold (but tardy) plunge into licensing the Mac OS to clone makers. In 1995, Power Computing released the first official

Mac clones—the Power line—and other clonemakers, such as Umax, Motorola, and DayStar, soon followed. Unfortunately, the clones ended up siphoning sales from Apple instead of increasing the Mac's market share. Bad plan.



Michael Spindler

By late 1995, Apple started the most disastrous plunge in its history. It couldn't build Macs fast enough (by mid-1995, the company had over \$1 billion in back orders)—and if you can't build 'em, you can't sell 'em. Apple was also pushing low-margin Performas over mid-range Power Macs, so it made very little money on the computers that it could build.

In August of 1995, Microsoft released Windows 95, which still sucked, but (unfortunately for Apple) sucked less than Windows 3.1. Although Windows 95 was still not on par with System 7.5 in terms of ease-of-use, the general public considered it good enough. Apple's operating-system advantage was gone.



## THE MAC THAT SAYS IT ALL Performa 6320CD (1995 to 1997)

The Performa 6320CD was the last in a litter of doggies that exposed Apple's inability to impose sanity on its product line. It was one of a baker's dozen of Performa 6200 and 6300 models released in 1995, each differentiated only by hard-drive size and minor speed bumps. Early 6200s were based on a 75MHz PowerPC 603 processor—the slowest 603-based Mac ever. The 6260CD, 6290CD, 6300CD, and 6310CD each had a 100MHz 603e; the 6320CD ran at 120MHz. The Performa

6200 and 6300 models had several problems, including a flaky motherboard and bad ROMs. This tragic era ended with the Performa 6360, which had a redesigned motherboard with PCI slots.

**Why It Mattered:** The Performa 6320CD was symbolic of Apple's strategic boo-boo: emphasizing volume over margins. The 6320CD also characterized Apple's Byzantine product names, which confused the hell out of even the most devoted Mac addicts.



## THE KEEPER

### Power Macintosh 8100 (1994 to 1995)

One of the three first-generation Power Macs (which included the 6100 and 7100), the 8100 was based on the PowerPC 601—the first Macs that used

the new RISC-based PowerPC chip. These Macs represented a huge, and sometimes painful, transition. Because the chip was so different from previous 680x0 chips, older software had to run in an emulation mode, which sometimes made

it run slower than it would on

older machines. Once developers made their software PowerPC-native, however, it screamed. The PowerPC line is still going strong. G5 stands for generation five; the PowerPC 601 was the first-generation design and could be called the G1.

## THE STINKERS

### Macintosh TV (1993 to 1994)

The Macintosh TV was one of the oddest Macs ever sold—and one of the few all-black Macs Apple ever produced. The Macintosh TV—essentially a black LC 520—had one standout feature: It came cable-ready with a built-in TV-tuner card. As it turned out, people weren't ready to watch TV on a Mac, and Apple sold few Macintosh TVs—only 10,000 were built.

## Newton (1993 to 1998)

Newton was Apple's first attempt at a PDA. Main problem: Its handwriting recognition was abysmal. So bad, in fact, that it was lampooned in *Doonesbury*—and in an episode of *The Simpsons*, the Newton misinterpreted "beat up Martin" as "eat up Martha." Newton signified the shortsightedness of Apple's management, which pushed the device into the world before it was ready. Had it waited until it fixed the Newton's problems, Apple may have been at the forefront of the PDA market from the beginning.

## SOFTWARE DEVELOPMENTS

→ Although released years earlier in 1990, System 7 continued to dominate. The only major change was the jump from System 7.1 to System 7.5 in 1994, which added features such as WindowShade and Stickies. It was also the first Mac OS distributed on CD-ROM as well as floppy disks.

→ In 1993, Apple introduced eWorld—its AOL-like online services. eWorld garnered a loyal-but-small following.

→ Apple announced the Copland project in 1994. Intended as a middle ground between System 7 and a fully modern operating system, Copland never made it out of the lab. Parts of it, though, such



A Tribute to eWorld

as a redesigned Finder, the HFS Extended (aka HFS+) file system, and Open Transport, made it into Mac OS 8 and later.

→ In 1995, Sun Microsystems announced the Java programming language—not an Apple innovation, but near and dear to the hearts of Mac OS X developers.

## THE WORLD OF TECHNOLOGY

→ The Information Superhighway concept entered public consciousness in 1993—for better or worse—appearing on the April 12, 1993, cover of *Time* as "The Info Highway."

Al Gore got credit for popularizing the phrase in a September 1994 speech—but not for inventing the Internet (which he never claimed he did, by the way).

→ Microsoft released Windows NT (version 3.1) in 1993, which ran on

several different processors including (until 1996) the PowerPC.

→ Microsoft released Windows 95 on August 24, 1995—to the public chuckling (and private horror) of the Mac faithful.

→ Microsoft Bob, a graphical desktop replacement intended for computer newbies that,

for example, replaced your standard desktop with an image of a living room, showed up in 1995. Bob promptly flopped and slunk back under a rock.



Microsoft Bob

## THE WORLD

→ Michael Jordan retired from the NBA in 1993—for the first time—to start a baseball career with the Chicago White Sox. He played with their Class AA team, the Birmingham Barons, but ended up returning to the Bulls in 1995.

→ In 1994, the blood on George Lucas's contract with the Devil finally dried, and he began writing the *Star Wars* prequels.

→ Bill Watterson stopped penning



Michael Jordan

*Calvin and Hobbes* in 1995. No one could get out of bed the next day.

→ The Chunnel (connecting England and France) opened in 1994.

### Did You Know?

The Power Mac 7100 had three code names. 1) Carl Sagan—but when Sagan protested, it became 2) BHA (butt-head astronomer). When Sagan threatened to sue over BHA, it became 3) LAW (lawyers are wimps, or so the story goes). The suit did go to court, where Judge Lourdes G. Baird sagely pointed out that "figurative language militates against implying an assertion of fact," and that the term butt-head was "undefined." (Shut up, Beavis!)

## Battle of the Bodyguards

Just before the 1994 winter Olympics, skater Nancy Kerrigan got clubbed on the knee. Police arrested rival Tonya Harding's bodyguard, Shawn Eric Eckardt (among others). That same year, *The Bodyguard* won the Grammy for Album of the Year. Which was the greater crime? We're not sure.



# WANDERING IN THE DESERT

**T**hese were the times that tried Mac fans' souls. If you stuck with Apple through these years, you deserve a medal.

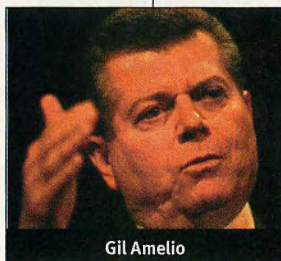
First, there was a major change in management. Gil Amelio, previously CEO of National Semiconductor, replaced Spindler, who resigned under pressure in early 1996. Unfortunately, Amelio didn't prove to be the savior that the Mac faithful hoped he would be. During the next year, Amelio presided over more than a billion dollars in losses and eroding confidence in Apple's survival. This downward spiral, during which many Mac users dabbled with the dark side by trying a PC, hit its lowest point in January 1997 at Macworld Expo San Francisco.

In what we here at *MacAddict* call "The Keynote from Hell," Amelio appeared to have skipped his meds that woeful morn, rambling on for a surreal hour and a half and calling Muhammad Ali and other

celebrities up onstage. Mac loyalists in attendance collectively buried their heads in their hands, sure that Apple was doomed. But there was one bright spot: Steve Jobs appeared onstage and demoed Rhapsody, which was supposed to be the next generation of the Macintosh operating system (a fusion of Mac OS and NeXT's operating-system technology). Jobs had rejoined Apple as an advisor after Apple purchased NeXT on December 20, 1996.

On July 9, 1997, Amelio and his chief technology officer, Ellen Hancock, resigned from Apple. Jobs took over, ended the licensing of the Mac OS (effectively ending the clone era and bringing those revenues back to Apple), and announced a partnership with Microsoft

in which the Redmond behemoth invested in Apple and continued to develop Microsoft Office. This move boosted investor confidence and helped Apple survive its toughest time.



Gil Amelio

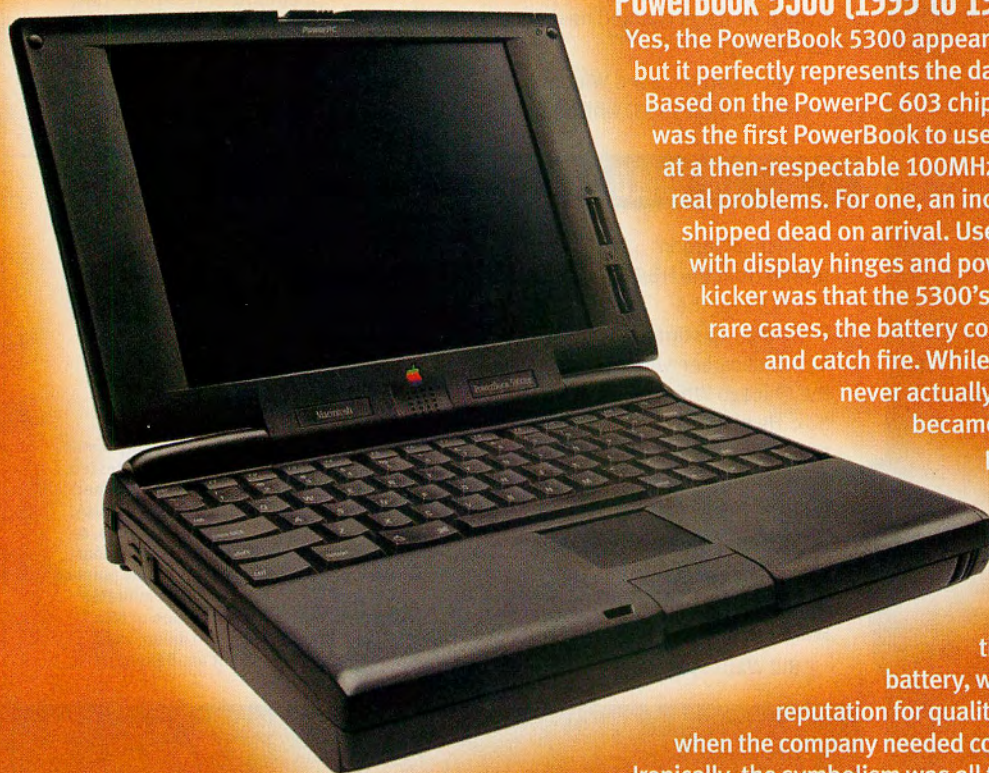
## THE MAC THAT SAYS IT ALL

### PowerBook 5300 (1995 to 1996)

Yes, the PowerBook 5300 appeared just before this era, but it perfectly represents the darkest days of Apple. Based on the PowerPC 603 chip, the PowerBook 5300 was the first PowerBook to use a PowerPC—and it ran at a then-respectable 100MHz. But it also had some real problems. For one, an inordinate number of them shipped dead on arrival. Users also reported problems with display hinges and power adapters. But the kicker was that the 5300's battery had a defect: In rare cases, the battery could theoretically explode and catch fire. While Apple still insists that never actually happened, the poor 5300 became the butt of jokes that persisted for years.

#### Why It Mattered:

The PowerBook 5300 was the most infamous PowerBook ever because of its theoretically incendiary battery, which hurt Apple's reputation for quality products at a time when the company needed consumer confidence most. Ironically, the symbolism was all too real: At this time, Apple as a company was also on the verge of bursting into flames.





## THE KEEPER Power Macintosh 9500 (1995 to 1997)

The first versions of this Mac debuted in 1995, but the bulk of its life was in 1996. Built on a PowerPC 604 processor, the Power Mac 9500 could use up to 1.5GB of RAM and had six PCI slots (the first Mac with PCI slots, along with the Power Mac 8500). Along with the 9500's successor (the 9600), this was the last time any Mac would have that many slots. The 9500 even came in a couple of multiprocessor models—the first multiprocessor Macs that Apple made. What didn't impress, however, was the 9500's case design. Installing RAM and other components required removing the motherboard from the case—an arduous process that often spilled blood.



## THE STINKERS Pippin (1996 to 1998)

The Pippin, a project that first started under Spindler, was Apple's attempt to build a consumer gaming console and WebTV-like device. It finally saw the light of day under the name @World (or @Mark, in Japan). Users could play games, use a somewhat limited selection of Mac software, and browse the Web on their TVs using a scaled-down version of the Mac OS. Unfortunately, text rendering on TVs was bad, game selection was even worse, and the @World cost a hefty \$599. In the end, the Pippin lived a short and unhappy life, selling less than 12,000 units in the U.S. before being liquidated in 1998.

## 20th Anniversary Macintosh (1997 to 1998)

This machine's moniker actually referred to Apple's 20th anniversary, not the Mac's. The 20th Anniversary Macintosh had TV and FM radio tuners built in, a sound system designed by Bose, and an LCD display. Many thought it visually stunning, while others were just stunned, Taser-style. Whether you thought it was cool or not, the biggest problem was its price—it started at almost \$10,000. This price didn't last long, though. By the end of its life in 1998, it was selling for around \$2,000. Yes, the 20th Anniversary Macintosh still has its fans, but so does the AMC Pacer.



## SOFTWARE DEVELOPMENTS

- ➔ Apple's online eWorld service went dark in 1996, forcing 147,500 members into the real world.
- ➔ Apple released both System 7.6 and Mac OS 8 in 1997. While 7.6 was a much-needed cleanup, Mac OS 8—which only ran on PowerPC-based Macs—contained significant new features such as an Internet setup assistant, improved list views, and a threaded Finder that allowed simultaneous file copying.
- ➔ In 1993, Apple began touting OpenDoc technology—a scheme to make documents, instead of applications, the focus of your



Blizzard's Diablo

work—as the future of software development. The developer world yawned and continued to work on applications. OpenDoc did, however, produce Apple's first Web browser, CyberDog.

- ➔ Blizzard unleashed the RPG Diablo on the world in 1996.

## THE WORLD OF TECHNOLOGY

- ➔ Scientists cloned Dolly the sheep in July of 1996, who—or is it which?—lived until February of 2003.
- ➔ In 1996, IBM supercomputer Deep Blue wiped the chess board with Garry Kasparov.
- ➔ Windows NT4, Microsoft's server-level operating system, debuted in 1996.
- ➔ In 1996, the long-anticipated digital-media revolution started turning out products people



Dolly

actually used, such as the first DVD players. Also, MP3-based music began its meteoric rise as the future of music distribution.

- ➔ A 1997 analysis of Martian meteorites hinted at life on Mars. The Mars Pathfinder probe cruised around in search of E.T. but came up empty.
- ➔ MacAddict was founded in 1996 at a time when many said we were insane for starting a new Mac magazine. Maybe we were. Maybe we still are.

## THE WORLD

- ➔ In 1996, Atlanta played host to the Summer Olympics and a fatal bombing.
- ➔ The Coen brothers released the film *Fargo* in 1996. The North Dakota accent became infamous.
- ➔ *Independence Day*, starring a PowerBook 5300 and a president in a flight suit, was the top-grossing film of 1996. VHS copies of the movie found their way underneath Macworld Expo keynote seats in January 1997 as door prizes.
- ➔ Hong Kong returned to Chinese control in 1997 after more than 150

years of British rule.

- ➔ Comet Hale-Bopp made an appearance in 1997.

### Did You Know?

Power Computing developed an ad campaign that featured a Sluggo-like character saying, "Let's kick Intel's ass!" to announce a 225MHz Macintosh clone. Deemed too controversial—in part because of a threatened lawsuit by Sluggo's lawyers—Power Computing shelved it.



Power Computing Poster

## Buttheads and Bastards

*Beavis and Butt-Head* ended its run on MTV in 1997 and *South Park* debuted. Folks who were sick of "huhhuhhuh" didn't know what they were in for until cries of "They killed Kenny—you bastards!" rang through dorms and offices everywhere.



# FROM THE ASHES

## THE MAC THAT SAYS IT ALL

### iMac (1998 to 1999)



The original iMac was a candy-colored splash. The i stood for Internet, and the iMac was intended to make it brain-dead easy for consumers to get connected. The iMac was the first Mac to include USB, and it was the first without a floppy drive. Although PC naysayers took this as the first sign of the apocalypse, the death of the floppy has not led to the end of civilization. The original iMac went through several revisions, including bigger hard drives, better graphics subsystems, faster processor speeds, and candy-colored cases—and yes, those wacky patterns—before it was superseded by the flat-panel iMac G4.

**Why It Mattered:** The iMac was a home run for Apple at a time when it badly needed to hit one out of the park. It proved immensely popular with consumers and the press, and its innovative design influenced a design revolution in all sorts of consumer products: toothbrushes, toasters, irons, and even George Foreman's ubiquitous grill. iMac wasn't so much a revolution in technology as it was a revolution in packaging, integration, and marketing.

**B**y 1998, the coals of Apple's return to greatness were beginning to glow. Jobs turned losses into profits, inspired his employees, and slimmed down a bloated and confused product line. And then there was Apple's ace in the hole, the product that brought Apple back to prominence: the iMac, announced on May 6, 1998.

The other huge development during this period was the move to Mac OS X. Thanks to the acquisition of NeXT, Apple not only got Steve Jobs back into the fold, it also gained NeXT's NeXTStep operating system and the engineers who worked on it. Those talented folks helped build Mac OS X, which finally brought Apple's operating system up to par with other modern OSs. Based on Unix and able to run Mac OS 9 applications in its Classic environment, Mac OS X allowed Apple to move to a next-generation OS while keeping the transition as smooth as possible. The key: the Carbon API (application program interface) set, which allowed Mac application developers to

tweak—rather than rewrite—their code to get it to work in Mac OS X, thus ensuring that developers were on board for the transition.

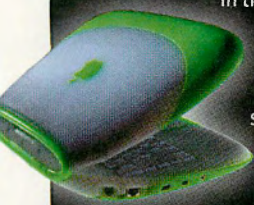
During this time, Apple took its new mantra—*Think Different* (the ad campaign that began in 1997)—to heart. Apple was busy reinventing itself as much more than a PC maker. First, the company created its digital hub strategy, based on the idea that the Mac was at the center of peripherals such as digital cameras, MP3 players, and camcorders. This idea also drove Apple to develop iMovie, iTunes, iDVD, and iPhoto—digital lifestyle applications that the PC industry tried, and failed, to copy. Apple also created innovative industrial design, producing hits such as the iMac, iBook, and failure-turned-collectible Power Mac G4 Cube.

Thanks to these efforts, Apple returned to profitability and stability—and to its rightful place as the top innovator in the personal-computer industry.



## THE KEEPERS iBook (1999 to 2000)

The iBook was a portable version of the iMac, and likewise came in blinding colors. The case was durable and Apple claimed that its Li-Ion battery could last up to 6 hours. You had to do some pretty serious power management (like not turning it on) to get that much life out of it, but it did last longer than PowerBooks of the time. The iBook also came with Ethernet-speed wireless networking in the form of AirPort, which continues to revolutionize connectivity. Critics said that the iBook looked like a toilet seat—probably because it did.



## Blue-and-White G3 (1999)

Another revolutionary design, the Blue-and-White G3 used ATA hard drives instead of SCSI—and while many Mac folks still didn't trust ATA hard drives, the decision to include them proved wiser as ATA drive capacities grew and prices plummeted. Like the iMac, the Blue-and-White G3 featured USB instead of serial ports. This G3 was also the first to feature onboard FireWire, and it had an elegant flip-down door that inspires Power Macs to this day. To anyone who lost a finger installing RAM in a 9500, this design improvement brought a tear to the eye.



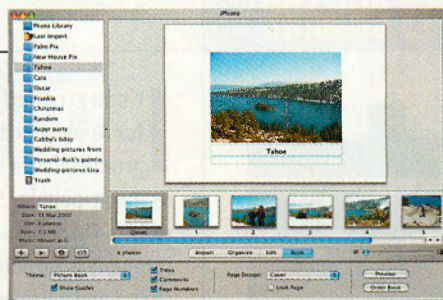
## THE STINKER G4 Cube (2000 to 2001)

Packed into a 10-by-8-by-8-inch transparent cube, the G4 Cube featured a PowerPC G4 running at 450 or 500MHz, and since it was cooled by convection, it ran silently. The optical drive was a toaster-style, vertical slot-loading drive. Unfortunately, Apple discontinued the Cube a year after its introduction. Why? For one, the Cube did not have any real expandability—there were no PCI or PC card slots. But the real issue was price—the Power Mac G4 was just a better value than the Cube.



## SOFTWARE DEVELOPMENTS

- ➔ The Mac OS moved from 8.5 to 10.2 during this time, which was the Mac equivalent of trading a '78 Toyota Celica for a late-model Lamborghini—an especially apt comparison, as the early iterations of OS X were as finicky as an Italian sports car.
- ➔ Apple released Mac OS 9 in 1999—the last major version in the venerable Classic Mac OS line.
- ➔ Apple released a public beta of Mac OS X in September 2000. It then followed up with four major releases: Mac OS X in March 2001, 10.1 in September 2001, 10.2 (Jaguar) in September 2002, and 10.3 (Panther) in October 2003.



Apple's iPhoto

- ➔ During this period, Apple released iMovie, iTunes, iPhoto, and iDVD, among other iApps.
- ➔ Adobe released InDesign 1.0 in 1999, InDesign 2.0 in 2002, and InDesign CS (effectively version 3) in late 2003. Quark finally moved Xpress from 4.0 to 5.0 in 2002 but waited another year before adding Mac OS X support in version 6.

## THE WORLD OF TECHNOLOGY

- ➔ ICANN (Internet Corporation for Assigned Names and Numbers) was created to manage the Internet's domain names in 1998.
- ➔ Windows 98, Windows 2000, and Windows XP debuted in 1998, 2000, and 2001, respectively.
- ➔ Linux, an open-source Unix derivative, gathered enough momentum to inspire IBM to sell it with its servers.
- ➔ The Ellis Island database

went live on the Web in 2001 ([www.ellislandrecords.org](http://www.ellislandrecords.org)), allowing people to search for their immigrant ancestors.



Pets.com Sock Puppet

- ➔ TiVo announced its self-named digital video recorders in late 1998.
- ➔ The dot-com boom became the dot-bomb bust as investors remembered in 2001 that businesses actually need to make a profit.

## THE WORLD

- ➔ Mark McGwire broke Roger Maris's single-season home-run record in 1998 with 70 home runs. Barry Bonds broke McGwire's record in 2001 with 73 home runs.
- ➔ Bob Barker taped the 5,000th episode of *The Price is Right* in 1998.
- ➔ Michael Jordan announced his second retirement from basketball in 1999.
- ➔ In 1999, *The Matrix* changed action and science-fiction films forever.

- ➔ On January 1, 2001, Seattle's Magnuson park played host to a 9-foot black monolith in honor of 2001: A Space Odyssey.



Space Odyssey

### Did You Know?

Easter eggs—once found throughout the Mac's operating system—became all but extinct during this period as Apple emphasized collaborative effort over individual achievement.

## Reality Meets Reality TV

In the closing weeks of 1999, paranoiacs scrounged for food, water, and batteries in preparation for the loss of all civilized society come 12:01 a.m., January 1, 2000. The next year, 16 contestants scrounged for food, water, and batteries in a quest to win a million dollars on the island of Pulau Tiga when *Survivor* premiered on CBS. As it turns out, the *Survivor* finale proved much less of a letdown.



# WELCOME TO THE FUTURE

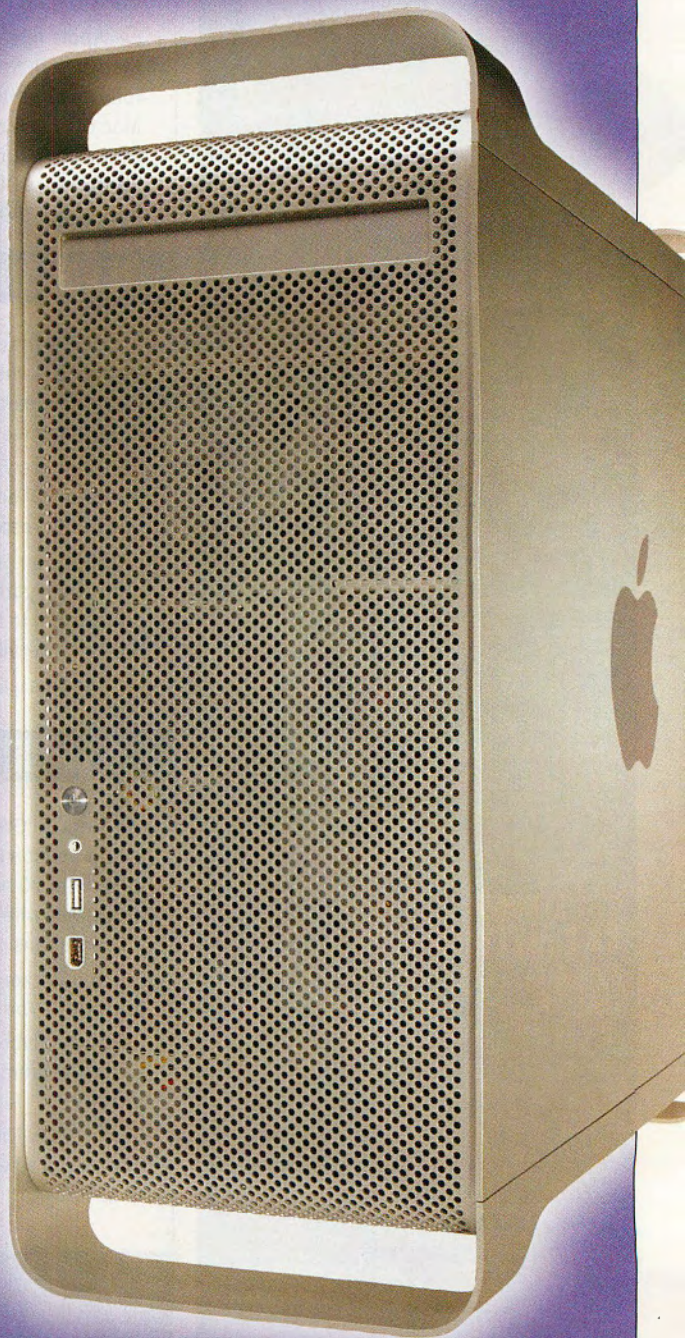
It's an exciting (though somewhat scary) time for Apple. Exciting in that Apple has its best product line in its history, scary in that even its mega-popular Switchers campaign hasn't resulted in double-digit market share. Still, the company is turning a profit, stabilizing its market share, and performing more than respectably in the laptop market.

Apple is also continuing to lead the industry in innovation—the iPod and iTunes 4 Music Store have revolutionized how music is distributed and sold, and they provide a legal (and fun) alternative to file-sharing networks. Jobs and his talented team are still driving the company forward, so expect many tasty things to come over the next few years.

## THE MAC THAT SAYS IT ALL Power Mac G5 (2003 to ?)

This is the latest in the long-lived Power Macintosh line. Based on a 64-bit microprocessor (the first increase of this kind since the late '80s), the Power Mac G5 uses a raft of new technologies—AirPort Extreme 802.11g wireless networking, Serial ATA, FireWire 800, USB 2.0, and AGP 8x Pro, to name just a few—in a cheese grater-inspired case. This is the future of the Macintosh, at least for professionals. Based on history, you can expect that the G5 microprocessor will be inside Macs for five years or more.

**Why It Matters:** This is the first major system overhaul in years and introduces many new technologies. For example, the Dual 2GHz Power Mac G5 can address up to 8GB of memory, has dual 1GHz front-side busses, and shoves all of its input-output mojo (including FireWire 800, USB 2.0, and optical audio) through a pair of HyperTransport I/O controllers for up to 3.2 GBps of throughput. It also features a quiet case design that keeps its processors cool without causing hearing loss.





## THE KEEPERS iPod (2002-?)

We nearly crowned the iPod, and all it represents, as this era's Mac That Says It All—even though it's not a Mac. One aspect of Apple's contribution to the MP3 digital-music revolution, the iPod uses FireWire to transfer files and charge its battery, can hold thousands of songs on a hard drive up to 40GB, is small enough to fit into your pocket, and beats the pants off of any other device of its kind. But more importantly, the iPod represents a new direction for Apple: digital entertainment. With an iPod, a computer (Mac or PC), and the iTunes Music Store, Apple now caters to an entirely new base of customers who can listen to and purchase music and spoken-word audio in ways no one imagined just a few years ago.



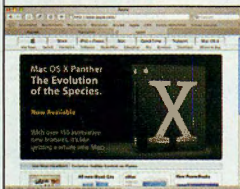
## Flat-panel iMac (2002-?)

Although the flat-panel iMac debuted in 2002 (first by accident on a Canadian *Time Magazine* Web site, just hours before Steve Jobs officially announced the product), the latest iteration is the best, with your choice of an adjustable 15-, 17-, or 20-inch screen. With built-in Bluetooth and AirPort Extreme, the flat-panel iMac only needs power, a keyboard, and a mouse to do its job in style. Like the Mac 128K, it revolutionized the look of the all-in-one computer.



## SOFTWARE DEVELOPMENTS

➔ Safari—Apple's second attempt at a Web browser—debuted in January



Apple Safari

2003. Microsoft decided to cease further development of Internet Explorer for Mac shortly thereafter.

➔ Also in January, Apple released Keynote, to the thankful sobbing of PowerPoint users everywhere.

➔ Apple released the iTunes Music Store for the Mac in April and for Windows in October.

➔ In October, Apple released Mac OS 10.3, aka Panther, featuring fast user switching, Exposé, X11, and FreeBSD 5.

## THE WORLD OF TECHNOLOGY

➔ Former Vice President Al Gore joined Apple's board of directors.

➔ The RIAA sued hundreds of peer-to-peer music swappers in one of the least even-handed corporate shenanigans to date.

➔ In August, Mars made its closest approach to Earth in recorded human history.

➔ China became the third nation to send a human into space with its launch of the Shenzhou 5.



Mars

## THE WORLD

➔ Although the film *Finding Nemo*, produced by the Steve Jobs-owned Pixar, was a money-making blockbuster, sushi remained on the menu at Apple.

➔ In February, space shuttle Columbia broke up on reentry due to a missing piece of insulation foam that fell off during launch.

➔ Arnold Schwarzenegger became California governor in a recall election. The rest of the country stifled chuckles.

➔ Right in time for the holidays, MacSoft released Halo, Bungie's first-person shooter. Halo started as a Mac game, but Microsoft bought Bungie to make games for its Xbox console.

## Technology into the Future

The Mac has always been on the cutting edge, showcasing new technologies or popularizing existing technologies. Here are some of the emerging technologies to watch.

### 1 WIRELESS BROADBAND

Think AirPort's big? You ain't seen nothin' yet. With the right antennas and a clear line of sight, you can now use AirPort's 802.11b technology to throw a wireless link 20 miles. The implications are staggering: With a few hundred dollars of gear and the right landscape, you can push a broadband link out to areas that would otherwise not be able to receive one—like that log cabin in rural Kentucky you've had your eye on.

### 2 BROADBAND OVER POWER LINES

This year, the FCC is rolling out the technology to provide DSL-class connectivity over power lines in at least a dozen pilot projects across the country. Locations include Potomac, Maryland; Manassas City, Virginia; and Emmaus, Pennsylvania. The implication? Broadband in every home that has power lines. Finally, universal high-speed access may become a reality.

### 3 HANDHELD VIDEO PLAYER

The rumor about that portable video player keeps coming up—and who wouldn't want a handheld device that could play downloaded movies? Add a fast wireless connection for broadcasting video and a FireWire port for charging and connecting a video camera, and we'd really have something.

### 4 SOCIAL SOFTWARE

Blogs, flash mobs, friend finders, online multiplayer games—the advent of the Internet means new ways for actual human beings to interact and connect. Telephone, schmelephone.

### 5 FUEL-CELL BATTERIES

Pop in a hydrogen or methane cartridge and get several hours of electricity. Fuel-cell batteries are already in test labs and are on their way to the laptop. The benefit? No more 5300-style accidents (although the Hindenberg comes to mind), plus you get longer hours of operation, a lighter laptop, and drinkable water to boot.

PRICE

The original Macintosh sold for \$2,495. The Dual 266MHz Power Mac G5 sells for \$2,999. Considering that \$2,495 in 1984 dollars is equivalent to \$4,447 in 2003 dollars, the latest Power Mac is a bargain. Now you can justify buying two—the Power Mac G5 costs only 56 percent as much as the original.

## Curse of the Bambino Versus Billy Goat Curse

Despite the prayers of millions of fans and TV executives, the cursed Chicago Cubs didn't play the cursed Boston Red Sox in the 2003 World Series. The Red Sox's curse originated when Babe Ruth's contract was sold to the Yankees in 1920—the Sox haven't won since. The Chicago Cubs' curse dates back to 1945, when a tavern owner cast a hex on the team when he wasn't allowed to bring his goat into Wrigley to watch the World Series—the Cubs haven't even been in a Series since. Looking into the future, we're betting on the Sox—even Sammy and Dusty can't overcome bad goat juju.





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# Mac vs. PC

# SMACK DOWN!

**WHO'S KING OF THE COMPUTING HILL, A DUAL 2GHZ POWER MAC G5 OR A 3.2GHZ PENTIUM 4 PC? OUR EXPERTS TEST 'EM BOTH AND REVEAL THE TRUTH.**

The world's fastest personal computer. That's what Steve Jobs calls the Power Mac G5—so it must be true, right?

Maybe so. But we wanted proof.

Plus, the Wintel-loving gearheads at our sister publication, *Maximum PC*, challenged us to a Mac versus PC smackdown. We immediately accepted. After all, we have our pride—and we believed that armed with a Dual 2GHz Power Mac G5 we could grind their puny 3.2GHz Pentium 4 PC into the dust.

So each editorial team pulled out its clipboards and gathered bang-for-the-buck info. Then we grabbed our stopwatches; fired up our respective machines; ran a passel of benchmarks, real-world apps, and games; and shared our results.

So, is Steve right? Yes. And no.

Read on.

by Rik Myslewski



# WHICH IS THE BETTER BUY?

**MACS GET KNOCKED FOR BEING EXPENSIVE, BUT IS THAT CRITICISM UNFAIR? YUP.**

Let's start with the obvious: Macs and PCs are different animals. Very different. And both have their pros and cons. We Mac addicts, for example, take justifiable pride in our elegant Unix-based OS, seamless application integration, and the exquisite engineering found in all Apple products. PC weenies—uh, aficionados—point to their systems' easy expandability, oft-superior gaming performance, and heap of Windows applications suitable for every occasion.

On the downside, we cop to limited video-card options, a meager number of USB ports, and an embarrassingly short one-year limited warranty. On the PC side, you find screaming-loud cooling fans, uninspired industrial design and engineering, and an OS that's prone to crashes and difficult to use.

Then there's the matter of price. Macs have long been criticized for their high cost, and though they're currently more affordable than ever, factors such as vicious competition, a flood of cut-rate components, and the screaming nose-dive in the PC marketplace, have driven PC prices even lower.

We assembled a quintet of kinda-sorta-comparable PCs (see "You Get What You Pay For," below) from the build-

to-order Web pages of leading manufacturers, and compared them to a kinda-sorta—similarly configured Dual 2GHz Power Mac G5. Among our test models, the Power Mac was the most expensive—and, in some cases, the most expensive by far.

But is the Mac's premium price justified? The Dual 2GHz Power Mac G5 is the only system on our list with lightening-fast PCI-X slots, FireWire 800, the convenience of ADC—and, of course, dual processors, since the Pentium 4 doesn't support multiprocessing. On the other hand, workstation-class PCs such as the IBM IntelliStation M Pro 6230 have scads of USB ports and PCI slots, enjoy three-year warranties, and can be fitted with workstation-class video cards such as the nVidia Quadro FX 1000. While the Dual 2GHz Power Mac G5 straddles the fence between consumer- and workstation-class machines, the best-performing card Apple offers for it is the decidedly consumer-class ATI Radeon 9800 Pro. Hardware to hardware, the best bang for the buck is a tough call, though we have to give the nod to the PC.

But hardware is only part of the story. The Power Mac G5 not only ships with Mac OS X, but it also comes with (take a deep breath) iCal, iChat, iDVD, iMovie, iPhoto, iSync, iTunes, Address Book, Apple Developer Tools, Art Directors Toolkit, FAXstf, GraphicConverter, Mail, OmniGraffle, OmniOutliner, QuickBooks, QuickTime, Safari, Sherlock, and more. And while one could argue that some of those apps are free downloads from the Apple Web site, in truth there ain't nothin' that's free—all of those "free" apps are subsidized by the extra cash we pay for our Macs.

Considering its ease of maintenance, tightly integrated software, precision engineering, and market-leading industrial design, we think the Mac, as a complete hardware-software package, is worth a few extra bucks.

## You Get What You Pay For

We assembled five custom peeces, each powered by a top-of-the-line 3.2GHz Pentium 4, and equipped them similarly to a Dual 2GHz Power Mac G5. Hardware to hardware, the Apple dualie was the most expensive.

	Apple Dual 2GHz Power Mac G5	Dell Precision 360	Gateway E-6100-C	hp Compaq d530 Convertible Minitor	hp workstation xw4100	IBM IntelliStation M Pro 6230
<b>Price as Configured</b>	\$3,549	\$3,079	\$2,519	\$2,089	\$3,318	\$3,372
<b>Processor Type</b>	dual IBM PowerPC 970	Intel Pentium 4	Intel Pentium 4	Intel Pentium 4	Intel Pentium 4	Intel Pentium 4
<b>Processor Speed</b>	dual 2GHz	3.2GHz	3.2GHz	3.2GHz	3.2GHz	3.2GHz
<b>Frontside Bus Speed</b>	dual 1GHz	800MHz	800MHz	800MHz	800MHz	800MHz
<b>L2 Cache</b>	two 512K	512K	512K	512K	512K	512K
<b>DDR SDRAM</b>	1GB	1GB	1GB	1GB	1GB	1GB
<b>Hard-Drive Type</b>	7,200-rpm SATA 150	7,200-rpm SATA 150	7,200-rpm SATA 150	7,200-rpm ATA/100	7,200-rpm SATA 150	7,200-rpm SATA 150, 7,200-rpm ATA/100
<b>Hard-Drive Capacity</b>	160GB	120GB	160GB	160GB	160GB	160GB (two 80GB)
<b>Optical Drive</b>	DVD-R/ROM, CD-R/RW/ROM	DVD+R/RW/ROM, CD-R/RW/ROM	DVD+R/RW/ROM, CD-R/RW/ROM	DVD+R/RW/ROM, CD-R/RW/ROM	DVD+R/RW/ROM, CD-R/RW/ROM	DVD-RW/R/ROM/RAM, CD-R/RW/ROM
<b>Floppy Drive</b>	no	yes	yes	yes	yes	yes
<b>Video-Card Type</b>	ATI Radeon 9800 Pro	ATI FireGL X1	ATI Radeon 9600G	nVidia GeForce FX	nVidia Quadro4 980XGL	nVidia Quadro FX 1000
<b>Video-Card RAM</b>	128MB	128MB	128MB	128MB	128MB	128MB
<b>Video-Card Ports</b>	ADC and DVI	VGA and DVI	TV and DVI	VGA and S-Video	two VGA, two DVI, or VGA and DVI	two DVI
<b>AGP Slot</b>	8x	8x	8x	8x	8x	8x
<b>PCI Slots</b>	none	five	five	five	five	five
<b>PCI-X Slots</b>	three	none	none	none	none	none
<b>FireWire 400 Ports</b>	two (one on front)	three (one on audio card)	one on audio card	none	three (one on front)	none
<b>FireWire 800 Ports</b>	one	none	none	none	none	none
<b>USB 1.1 Ports</b>	two on keyboard	none	none	none	none	none
<b>USB 2.0 Ports</b>	three (one on front)	eight (two on front)	eight (two on front)	six	six (two on front)	six (two on front)
<b>No-Cost Warranty</b>	one-year limited	three-year limited*	three-year limited*	three-year limited*	three-year limited*	three-year limited*

\*onsite repair



# WHICH IS THE BETTER PERFORMER?

LIKE BEAUTY, PRIMO PERFORMANCE IS IN THE EYE OF THE BEHOLDER.

Any discussion of performance understandably centers on the heart of any Mac or PC: its processor. Although AMD and Intel recently released new hot-rod processors (see "The Bottom Line," p38), Intel's Pentium 4 (aka the P4) powers most high-end PCs. With this in mind, we asked the tech wizards at *Maximum PC* to build a test PC based on the fastest available P4, clocked at 3.2GHz. They equipped it with other components comparable to those in a beefed-up Dual 2GHz Power Mac G5: a 120GB 7,200-rpm serial ATA hard drive, 1GB of DDR SDRAM, and an ATI Radeon 9800 Pro video card—a hair over \$2,100 worth of quality do-it-yourselfer components. We then ran an assortment of application-benchmark tests, real-world apps, and games on both the PC and the dualie.

## APPLICATION BENCHMARKS

Application benchmarks are odd beasts. Rather than measuring how an app performs in operations used in real-world situations, these tests exercise a wide selection of an application's capabilities without weighting the results on whether those capabilities are frequently used or not. For example, the Photoshop 7.0.1 (\$609, [www.adobe.com](http://www.adobe.com)) application benchmark developed by the geeks at *Maximum PC* runs each and every Photoshop filter (except for three that froze the benchmark—go figure) one after another. Our Photoshop tests, on the other hand (see "Photoshop 7.0.1," below), emphasize operations that are more commonly used. Our reasoning is that you are far more likely to use the Sharpen > Unsharp Mask filter than you are to use the Sketch > Plaster filter, so you're more interested in how Photoshop performs when you're working with it. The *Maximum PC* editors argue it's fairer to treat each and every operation equally. We provide both results: Pick the set you want to believe.

We also ran an application benchmark for Mathematica 5 (\$1,880, [www.wolfram.com](http://www.wolfram.com)) developed by Stefan Steinhaus ([www.scientificweb.de/mathstef3.html](http://www.scientificweb.de/mathstef3.html)), which the good folks at Wolfram Research recommended as an especially comprehensive test. In this test, the 3.2GHz Pentium 4-based PC handily spanked the Dual 2GHz Power Mac G5. Keep in mind that Mathematica 5 has not yet been optimized for the G5 processor—and programming techniques that work great for the G4 can actually slow down a G5. The reasons why are way too complicated to get into here, but if you're looking for an overview, check out the "Optimizing for the Power Mac

G5" article on Apple's Developer Connection Web site: <http://developer.apple.com/performance/g5optimization.html>.

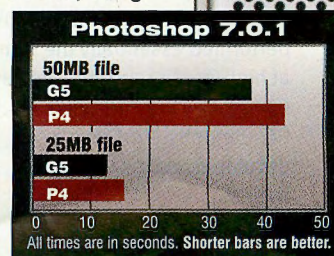
Tip: Do not start reading this if you're sleepy and have had a beer or two—it can be tough sledding

if you're not scintillated by Deep Geek.

We also uncovered an odd behavior when running the Mathematica 5 benchmark: Using CPU Monitor (Applications > Utilities > CPU Monitor), we noticed that the G5 processors never operated at full bore simultaneously. In fact, if one processor was running at 100 percent, the other was idle; if one was at 60 percent, the other was at 40—the total utilization added up to 100 percent, not the 200 percent we expected from an app designed to take advantage of the Power Mac G5's dual processors. A Wolfram spokesperson told us that the company is planning to release an upgrade to Mathematica 5, but that it doesn't yet have a firm release date.

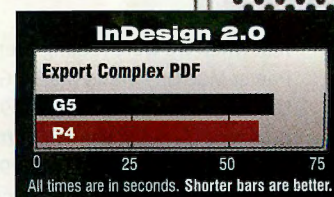
## PHOTOSHOP 7.0.1

We left the rarified air of application benchmark testing and entered the real world of Adobe Photoshop 7.0.1. Using the same Photoshop Action we used for last month's review of the Dual 2GHz Power Mac G5 (see *Reviews*, Dec/03, p50), we ran this Action on the G5 and P4 machines, using identical 25MB and 50MB PSD files (see "The Fine Print," p38, for details on this and all other tests). As we mentioned, our test was designed to mimic real work done by real people in the real world. Turns out that the G5 is better tuned to reality than a 3.2GHz P4.



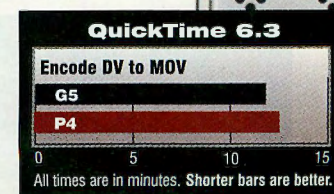
## INDESIGN 2.0

For our next test, we fired up InDesign 2.0 (\$699, [www.adobe.com](http://www.adobe.com)) on both platforms and exported a 16-page magazine feature with a ton of links into PDF format. In this case, the Dual 2GHz Power Mac G5 didn't fare as well, but it was close: The P4-based PC edged it out by four seconds in tests that took about a minute to perform.



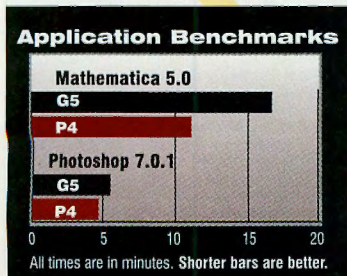
## QUICKTIME PRO 6.3

We then switched over to QuickTime Pro 6.3 (\$29.99, [www.apple.com](http://www.apple.com)), and exported a 2GB DV file into MOV format. The G5 edged out the P4, but again the difference in speed was not great: The P4-based PC was about 93 percent as fast as the Dual 2GHz Power Mac G5.



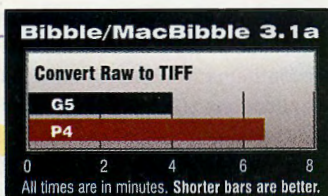
## BIBBLE/MACBIBBLE

Pro digital-camera jockeys use Bibble (\$75, [www.bibblelabs.com](http://www.bibblelabs.com)) and its Mac counterpart—ingeniously named MacBibble—as secret Weapons



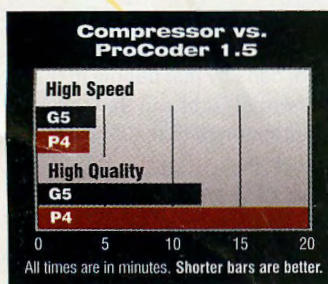


of Mass Improvement. These powerful apps manipulate virgin image data as it's captured by a digital camera's CCD—that is, if that camera is able to capture images in RAW format, rather than lower-quality, camera-processed JPEG files. We used Bibble and MacBibble (both at version 3.1a) to batch-convert a load of RAW images to TIFFs. The results prove Bibble Labs' claim that MacBibble is "Multithreaded to be Super Fast on Dual CPU Mac G4's" extends to G5s as well. Who cares if their grammar and spelling suck? Their software kicks.



## COMPRESSOR VS. PROCODER 1.5

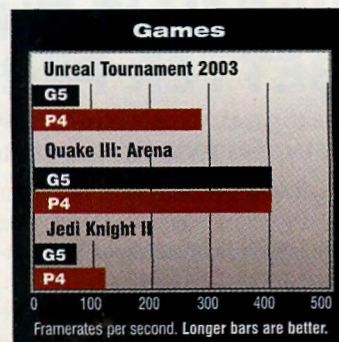
For our last real-world test, we had to use different apps on each platform since Apple's Compressor video encoder (bundled with Final Cut Pro 4 and DVD Studio Pro 2; \$999 and \$499 respectively, [www.apple.com](http://www.apple.com)) doesn't run on a Wintel box. Following Apple's advice, and with the agreement of our *Maximum PC* counterparts, we used ProCoder 1.5 (\$499, [www.canopus.com](http://www.canopus.com)) on the 3.2GHz Pentium 4 PC. In a quick-and-dirty encoding of a 1GB DV file into MPEG-2, the two apps performed essentially the same. When encoding the same file at high-quality settings, however, the Dual 2GHz Power Mac G5 smoked the P4-based PC. Canopus, ProCoder's developer, claims that their Mastering Quality setting—which we used in this test—produces higher-quality MPEG-2 files than Compressor's High Quality setting (its top setting). Maybe so. Maybe not.



## GAMES

Just when we were feeling pretty darn good about the Dual 2GHz Power Mac G5 versus the 3.2GHz Pentium 4 PC, we loaded up Unreal Tournament 2003 (\$49.99, [www.macsoft.com](http://www.macsoft.com)), Quake III: Arena (\$49.99, [www.idsoftware.com](http://www.idsoftware.com)), and Star Wars Jedi Knight II: Jedi Outcast (\$49.99, [www.aspyr.com](http://www.aspyr.com)), and ran some framerate tests. Humility reassured itself. Although the G5 and P4 pumped out identical framerates in Quake III: Arena, the P4 soundly whupped the G5 in Jedi Knight II and thoroughly embarrassed it in Unreal Tournament 2003. MacSoft and Aspyr spokespersons reminded us that UT03 and Jedi Knight II

are optimized for the G4, and that some of those optimizations degrade G5 performance. The Aspyr spokesperson said that Jedi Knight II will soon be optimized for the G5, and the MacSoft spokesperson told us that Unreal Tournament 2004 (see "The Scoop: Unreal Tournament 2004," p18) will also be optimized for the G5—let's hope optimization is complete by the time UT04 ships in early 2004.



## THE BOTTOM LINE

If you live and work in the real world, the Dual 2GHz Power Mac G5 will help you get creative work done faster than a 3.2GHz Pentium 4-based PC. If mere horsepower floats your boat, the situation is murkier: In the application benchmark tests we ran, the P4 handled the G5. Caveats, however, abound. First, the G5 is the new kid on the block. It'll be a while before software is optimized to take advantage of all its power, just as many apps ran slower on the Pentium 4 when it first arrived on the scene than they did on the Pentium III—and it took nearly three years for software developers to master all of the P4's tricks.

But the Wintel world isn't standing still, either. Although we tested the G5 versus the most powerful widely available microprocessor, the 3.2GHz Pentium 4, two new—and *muy macho*—chips have entered the fray since the G5 was announced: the AMD Athlon 64 FX-51 and the Intel Pentium 4 Extreme Edition, which is essentially a slimmed-down server-class Intel Xeon. At press time, no major PC manufacturer had yet incorporated these chips into their product lines, but when *Maximum PC* ran these same tests on homebrew PC set-ups, the G5 won on a few tests but overall came in third.

So, is the Dual 2GHz Power Mac G5 the world's fastest personal computer? Sadly, there's no irrefutable answer to that question—it depends on what tests you're running and how you define *personal computer*. However, there's no arguing the fact that the G5 is one damn fast chip and that the Dual 2GHz Power Mac G5 is one damn fast personal computer. The Mac be back.

Rik Myslewski, *MacAddict's* editor in chief, was once forced to use a PC at a now-failed dot-com. It wasn't his fault. Forgive him.

## The Fine Print

READ IT AND SLEEP: HERE'S HOW WE TESTED.

**SYSTEMS:** Both the Dual 2GHz Power Mac G5 and 3.2GHz Pentium 4-based PC were equipped with 1GB of DDR400 SDRAM in dual-channel mode and a Radeon 9800 Pro video card with 128MB of DDR SDRAM. The Pentium 4-based PC was based on an ASUS P4C800-E Deluxe motherboard using the Intel 875P chip set and was running Windows XP Professional SP1. The Power Mac G5 was running Mac OS 10.2.7.

**APPLICATION BENCHMARKS:** The Mathematica 5 tests used the Stefan Steinhaus Benchmark test (Version 4). The application-benchmark Photoshop 7.0.1 tests ran each bundled Photoshop filter in order on a 2MB JPEG file. Three filters were excluded because they caused the benchmark to hang during processing.

**PHOTOSHOP 7.0.1:** The real-world Photoshop 7.0.1 tests used 25MB and 50MB PSD files. Photoshop's Cache level was set to 4, its Memory Usage was set to 100 percent in the Memory & Image Cache Preference, and all its History Options were unchecked. The Photoshop Action consisted of the following steps: Gaussian Blur, 50 pixel radius; Revert; Gaussian Blur, 1-pixel radius; Unsharp Mask, amount of 150 percent, 2-pixel radius, threshold of 0; Despeckle; Dust &

Scratches, 8-pixel radius, threshold of 0; Sharpen Edges; Rotate, 90 degrees clockwise; Mode Change, RGB to CMYK; Resize, 150 percent, proportions constrained, bicubic interpolation; Save As, TIFF, no compression.

**INDESIGN 2.0:** The InDesign 2.0 tests output to PDF using an 18.5MB file with 28 linked files totaling 423MB.

**QUICKTIME PRO 6.3:** The QuickTime Pro 6.3 tests outputted a 2GB DV file to MOV. **BIBBLE/MACBIBBLE:** The Bibble/MacBibble tests batch-converted a folder containing 85 Nikon RAW .NEF files totaling 859MB to 16-bit TIFFs. Version 3.1a was used on both platforms.

**COMPRESSOR VS. PROCODER 1.5:** Both the Compressor and ProCoder 1.5 tests encoded a 1GB DV file to MPEG-2. In the High-Speed test, Compressor was set to Fast Encode in the Preset menu and ProCoder was set to a Speed/Quality Mode of High-Speed. In the High-Quality test, compressor was set to High Quality Encode in the Preset menu and ProCoder was set to a Speed/Quality Mode of Mastering-Quality.

**GAMES:** Unreal Tournament 2003 was upgraded with the 2225.1 patch; the framerates cited were reported by the application when running the Asbestos fly-by demo. The Quake III: Arena tests cited the framerates as reported by the Four demo. Star Wars Jedi Knight II: Jedi Outcast framerates cited were obtained by a custom benchmark developed by *Maximum PC*.



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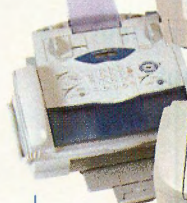
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# PANTHER: WORTH EVERY PENNY

Bummed that Apple wants you to shell out another \$129 for the next major version of Mac OS X? You're not alone. **Those loyal to OS X from the beginning feel burned** each year as Apple unveils—and charges a chunk of change for—a new version of its operating system. If your gut reaction is to say, “Screw Panther,” we don’t blame you.

But wait. What if we told you that **Panther actually saves you money?**

Think of it this way: Time is money. And since Panther’s all about efficiency, performance, and making your life easier, in the end it can save you a ton of time—and therefore a ton of cash.

Don’t believe us? Read on. We picked ten of our favorite Panther **timesaving features** and clocked tasks that use them, comparing the results to how long they took us in Jaguar, and estimating just how much time Panther will save us over a year. We discovered that not only is Panther an impeccably designed OS that **blows the fur off Jaguar**, it’s also a money-saver.

by Deborah Shadovitz



## Better Finder Windows

**OPEN A FINDER WINDOW**, and you're sure to notice the new Sidebar, which replaces the Finder toolbar and outdoes the (pretty useless) Favorites feature from previous Mac OS X versions. No more starting at the hard-drive root level and drilling down 20 million (OK, four) levels to get to your Documents folder or other favorite locale.

The Sidebar features all of your primary starting points, such as your Applications and Home folders. Choose which volumes appear by checking them under Finder > Preferences > General. You can also add any folder or app to the lower part of the Sidebar either by dragging it there or by selecting it and choosing File > Add To Sidebar. Of course, you can remove items from the Sidebar by dragging them to the Desktop and watching them go poof.

The rest of the Finder window looks the same as it does in Jaguar, with the ability to set the view to Icon, List, or Column. But now in Column view you can resize columns individually so they each can be a different width. Finally.

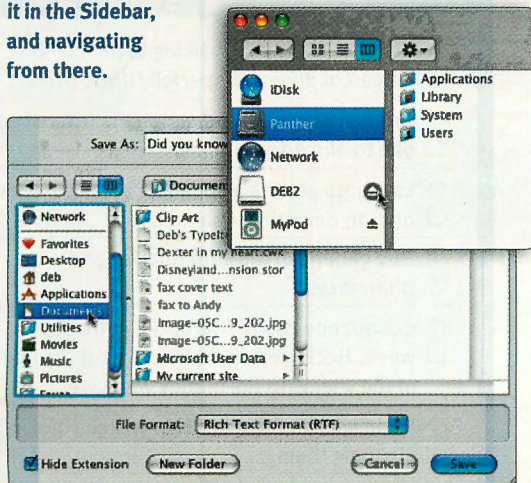
### TIME SAVINGS

Using a highly technical empirical methodology—watching our Mac's clock—we determined that it takes on average 6 seconds less to navigate to folders and files in Panther than it does in Jaguar. We access files, say, 18 times a day, so we save about 108 seconds daily.

#### YEARLY SAVINGS

11 HOURS

Removable drives appear in the Sidebar (below right). Click the eject icon to eject a drive or CD. In Save As dialogs (below left), you can jump to a folder by clicking it in the Sidebar, and navigating from there.



## Improved Mail

### IF JAGUAR MAIL, WITH ITS BREAKTHROUGH

junk-mail filtering tools, didn't convince you to dump your current email program and switch to Mail, perhaps Panther will succeed.

First off, Panther's Mail offers speed increases. HTML email renders much faster since it piggybacks on Safari's HTML rendering engine. A full page with graphics takes only a second or two to render in Panther, compared to 10 seconds in Mail 1.2.5 (Jaguar) and 6 seconds in Entourage (in Jaguar).

But the real impetus to switch to Mail is its ability to follow email threads.

Panther's Mail lets you group all emails in a thread so that you can follow them more efficiently. Simply choose View > Organize By Thread, and all follow-up messages will appear nested under the original. An arrow next to the first message lets you reveal or hide all of the replies. And when you click the first message in any thread, you get a summary that tells you who started the thread and lists all messages in the thread. Double-click any message to read it.

Addressing and composing messages is easier now as well. You can drag addresses or notes from the Address Book to any part of an email. You can also drag addresses between the To, Cc, and Bcc fields, instead of having to copy-paste them. Another bonus: You can click any name listed in From or To fields to either add that person to your Address Book or, if the person's already there, open the listing. Entourage users have enjoyed these features for some time—kudos to Apple for catching up.

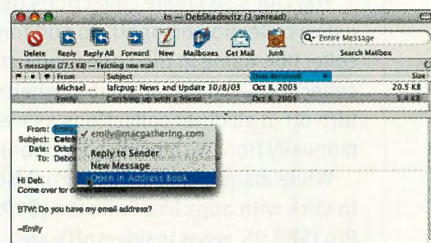
Finally, ZIP compression and encoding is built into Mail, so attachments are automatically zipped.

### TIME SAVINGS

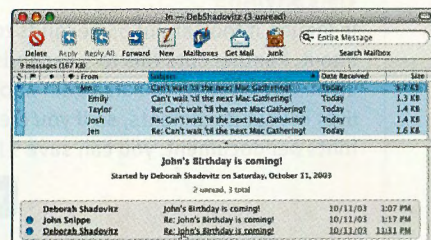
Between better HTML rendering, draggable addresses, performance enhancements, and the ability to view by threads, regular Mail users can save up to 20 minutes a day. Plus, you're spared time and annoyance by not having to explain to PC users how to unstuff .sit files anymore. Priceless.

#### YEARLY SAVINGS

121 HOURS 30 MINUTES



Click a name in Mail to call up someone's Address Book record.



All lead messages provide summaries of the thread. Click a summary line to jump to that message.



## Font Book

**IN PRE-PANTHER VERSIONS OF MAC OS X**, it practically takes a Rhodes scholar to figure out where to install your fonts. In Panther, font installation finally makes sense.

Font Book is a welcome addition that makes it easy to install fonts, preview and search for them, and gather them into groups that you can activate or deactivate whenever you want. To install a font, double-click the font file. This opens a preview window, which displays the font. If you like the font, click Install Font. You can install multiple fonts by selecting several, then double-clicking and using the pop-up to preview each one. If you want to make fonts you install available to all your Mac's users, drag them onto the Computer icon (under All Fonts) in the Collection column.

Panther lets you disable fonts too. Just launch Font Book (from the Applications folder), select a font, and then click the Disable button. A font won't appear in any app you launch while it's disabled.

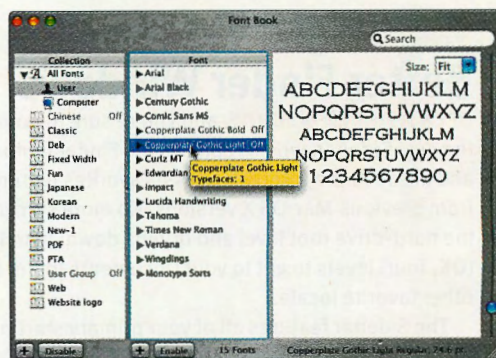
You can also create collections using the plus button (+), and turn an entire collection on or off. To add fonts to a collection, drag them onto the collection name in the Collection list. You can place the same font in multiple collections, but be aware that when you turn off a collection, that font will turn off in all other collections as well (although you can re-enable the font manually from within any collection).

While many of you will use Font Book, professional designers will still want to stick with apps like Suitcase (\$99.95, [www.extensio.com](http://www.extensio.com)) or FontAgent Pro (\$89.95, [www.insidersoftware.com](http://www.insidersoftware.com)) for features like professional text samples, automatic font activation, and independent set management.

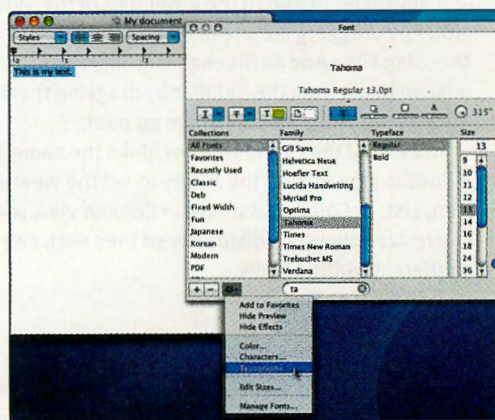
### TIME SAVINGS

In Jaguar, it took about 35 seconds to locate the Fonts folder and drag fonts into it. Panther cuts this to 5 seconds. Install 20 fonts a year, and you save 10 minutes a year. You also gain about 5 seconds scrolling down shorter font lists in your documents, so if you create one document a day and choose three fonts per document, you can save 91 minutes a year. Not that we're counting.

**YEARLY SAVINGS 1 HOUR 41 MINUTES**



Font Book gives you the power to disable fonts—use it with care.



Panther now features an improved Font panel that lets you add various underlines or strike-throughs, change the color of text, and even add a drop shadow and set its angle and spread.

## Easier Printing

**HALLELUJAH! DESKTOP PRINTERS ARE BACK**, and we couldn't be happier. A Desktop Printer is a small application dedicated to the print jobs for one particular printer. Launching a Desktop Printer in Panther provides direct access to that printer's job info. To create one, simply add a printer in the newly renamed Printer Setup Utility, select it in the Printer List, and choose Printers > Create Desktop Printer. This will create the application in Library > Printers and create an alias on your desktop.

We like to keep Desktop Printers docked so that we can keep an eye on what's happening with each one and get more details with just a click. Also, if you keep a Desktop Printer's icon docked, you can trash the alias and keep your desktop cleaner. But the best part? Drag documents right onto a Desktop Printer to print!

### TIME SAVINGS

Dragging a document to a Desktop Printer can save you 15 seconds or more each time you print. If you kill as many trees as we do, then you'll save a minute or more a day.

**YEARLY SAVINGS 6 HOURS**



## Start Saving

Ideas for Scrounging Up \$129

- 1 Save gas money by walking to the mailbox instead of driving (especially if you live in LA).
- 2 Drop all magazine subscriptions (except your one to *MacAddict*, of course).
- 3 Look into getting a cheaper cable TV package or drop one prime channel.
- 4 Buy generic in the supermarket and pharmacy.
- 5 Cut out one cup of Starbucks coffee per week. Heck, you could buy a car at the end of the year with the money you save.
- 6 Hand wash a few garments instead of dry cleaning them.
- 7 Crash a couple of parties at Macworld Expo for a free meal.

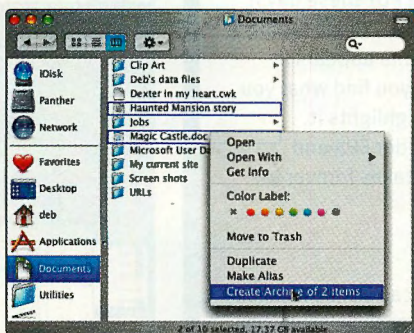


## Faster Compression

**EVERY VETERAN MAC** user uses Aladdin's Stuffit application to compress files. But those who transfer a lot of files will appreciate that PC-standard compression and encoding (.zip) are just a click away in Panther. To create a compressed archive, just Control-click (or right-click) any file or folder, and choose Create Archive from the contextual menu that appears (or select the file and go to File > Create Archive). Just like that, your archive appears in the same folder as your originals.

### TIME SAVINGS

Panther's Create Archive saves you from having to locate the Stuffit folder, select your files, and drag them onto the DropStuff or DropZip icon to compress a file—that's about 10 seconds. Do that once a day and, well, you can do the math.



Create an archive by Control-clicking an item and choosing the Create Archive option.

YEARLY SAVINGS

1 HOUR

## Interface Changes



**FINDER DOCK ICON** In Jaguar, clicking the Dock's Finder icon brings up a plain-old Finder window. In Panther, it brings up a Finder window, complete with the new Sidebar, already navigated to a folder of your choosing. Customize that setting under Finder > Preferences > General using the New Finder Window Opens pop-up menu.

**APP SWITCHING** You've always been able to press Command-Tab to switch between open apps. But now a strip containing large icons appears across your screen displaying all active programs, so you can see which app you're activating.

**CONTEXTUAL MENUS** For those of you still using Apple's one-button mouse, the Finder window's Action button equates to a Control-click.

## Faster Searching

**IN JAGUAR, USING THE FINDER'S SEARCH** function involves typing text, then pressing Return to start the search. In Panther, the results list appears in the same window—and it's live. Just start typing key words, and files that fit your request start appearing. Keep typing to narrow your search.

You also have control over which folder or volume Panther searches. As with Mail or iTunes, click the magnifying-glass icon to reveal a list of places to search. If you choose Selection, Panther pats down only the volume or folder selected in the Sidebar.

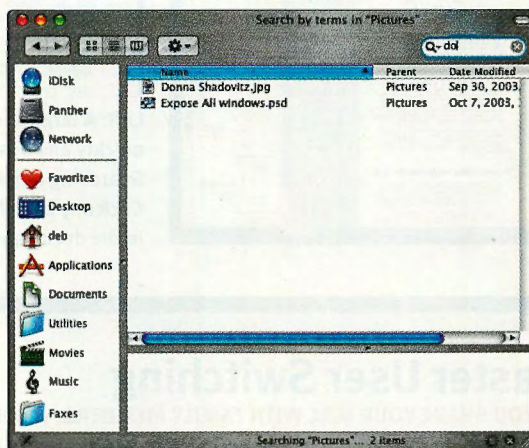
Whenever you run a search, a tiny button appears at the bottom-right of the Finder window. Clicking it refreshes the find.

### TIME SAVINGS

In Panther, searching a 30-gig hard drive saves about 100 seconds. Do two searches a day, and you save about 3.3 minutes.

YEARLY SAVINGS

20 HOURS



Here we've told Panther to search just the Pictures folder.

## System Preferences

### SOFTWARE UPDATE

No more going to System Preferences, selecting Software Update, then clicking Check Now. Now choose Apple menu > Software Update and the checking begins! You can also check for updates by clicking Software Update from the About This Mac box.



### SYSTEM PREFERENCES

System Preferences are tidier. My Account and Accounts are combined, plus it's easier to set up users, assign software-access permissions, and choose login items (now called Startup Items). Desktop and Screen Saver are together. Appearance replaces General.



### SECURITY

FileVault provides on-the-fly, transparent file encryption and decryption for everything in your Home (aka User) folder. Be careful—forget your password, and you'll never see your data again. Enable FileVault in System Preference's new Security pane.





## Warp-Speed Preview

**APPLE CALLS PREVIEW THE WORLD'S FASTEST PDF VIEWER**—and it ain't lying.

In Jaguar's Preview or Adobe Acrobat, it took a full 30 minutes to render all page previews of a 622-page PDF (that's on a 500MHz PowerBook G4). In Panther's Preview, it took closer to 20 seconds. No, you don't need glasses—we said 20 seconds. Here are some other examples: A 4-page store flier and a 48-page book chapter both rendered in 5 seconds in Panther (down from 30 and 70 seconds, respectively).

Even with faster rendering, who has time to read an entire PDF these days? Luckily, Preview's new live searching makes finding info a snap. Begin typing what you're looking for into the Search box, and a list of results appears in the drawer below. Keep typing to narrow your search. When you find what you want, click the item—the document jumps to that text and highlights it.

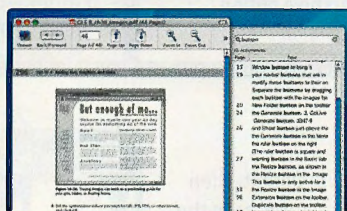
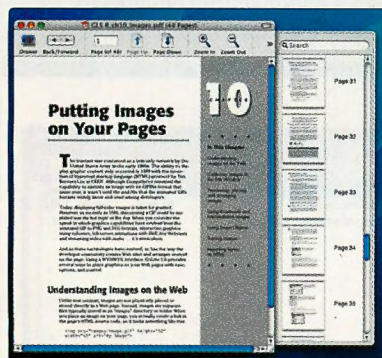
One more improvement: Preview can now convert and render EPS and PostScript files. No need to launch a graphics program that takes forever to boot up (ahem, Photoshop) just to see what a file looks like.

### TIME SAVINGS

Between faster rendering and the ability to search, Preview can save average users about 5 minutes a week (much more if you're a PDF junkie).

YEARLY SAVINGS

4 HOURS



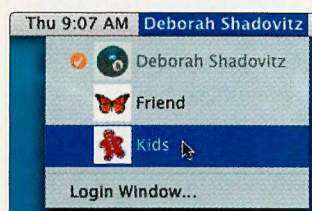
Left: A large document renders quickly and beautifully. Above: Searching large files takes seconds. Click any search result to jump to it in the document.

## Faster User Switching

**IF YOU SHARE YOUR MAC WITH FAMILY MEMBERS**, you'll love this feature.

Say you're in the middle of an email when your daughter needs to print out her report on wallabies *right now*. Simply select her user name from the user menu in the menubar and—with the flourish of the Keynote box-turning effect—her user desktop appears. To get back to your email, select your name from the user menu and reenter your password. One user can even process files or print while another user is signed in and working.

To turn on Fast User Switching, navigate to the newly revamped Accounts System Preferences. Click Login Options, located at the bottom of the left-hand pane that lists all of your accounts. Then check Enable Fast User Switching.



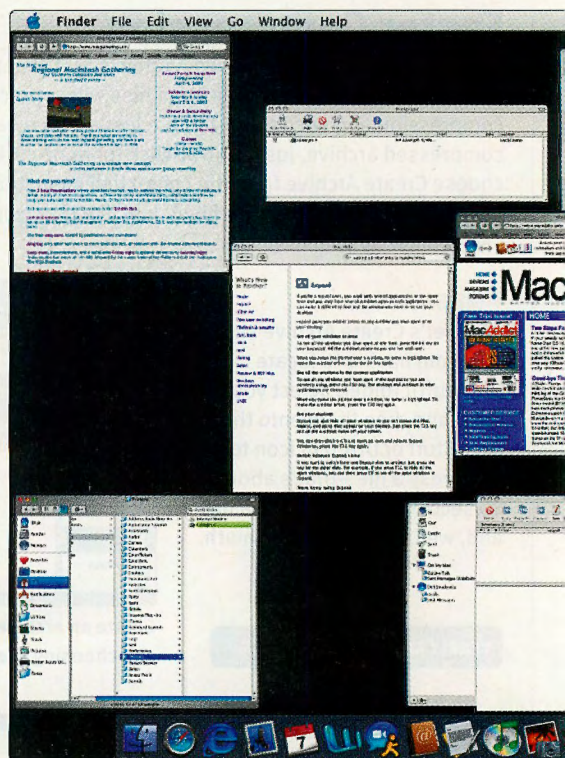
To switch users, just choose a name from the user menu.

### TIME SAVINGS

With Fast User Switching enabled, a family of three can save about 7.5 minutes a day in log-in and log-out time—plus, no more “Just a minute! Just a minute!” arguments.

YEARLY SAVINGS

46 HOURS



## Exposé

**EVER HAVE DOCUMENTS, FINDER WINDOWS,**

and palettes open all over your desktop—then have to move, hide, or minimize about 20 open windows just to find one friggin' file? No, we're not bitter.

Well, we really *aren't* bitter now that we've got Panther. Exposé lets you do one of three things: Sweep all open windows out of the way to clear your entire desktop, display miniatures of all open windows, or display only windows from your front-most application. To start using this feature, head over to the Exposé System Preferences to program your choice of keyboard commands, mouse buttons, or hot corners

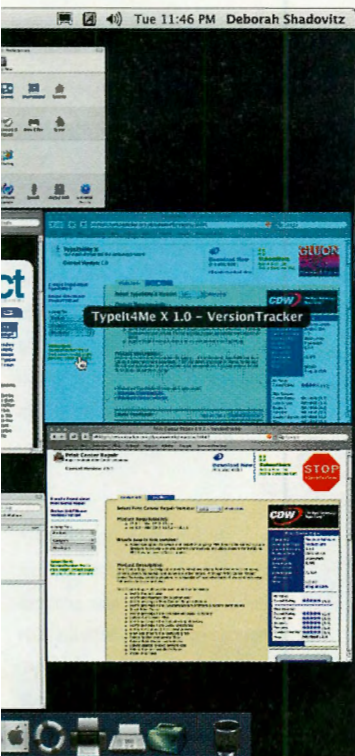
## Applications Enhancements

**DISK UTILITY** Disk Copy is now part of Disk Utility, and it's easier to use. It's also multithreaded, so you can now make a .dmg from a CD while running First Aid functions.

**ADDRESS BOOK** You can now customize address templates (Preferences > Template), and there are more fields to choose from, such







With Exposé, if windows are too small to recognize when minimized, mouse over them to see their names. To bring a particular window forward, click it and it'll spring forward as all other windows return to their original positions.

(where you move your mouse to a corner of the screen) to activate these functions. Once you program these commands, use them to minimize or clear your windows, and then bring them back to their original arrangement.

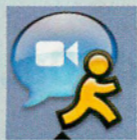
#### TIME SAVINGS

How often do you have to find a file on your desktop hiding underneath a swarm of open windows? Too many. Exposé saves about 20 seconds each time you use it, which is at least 20 times a day—that's 6.7 minutes a day.

YEARLY SAVINGS

41 HOURS

as Spouse and Children. You can choose how to format phone numbers (Preferences > Phone), merge duplicate contacts, and print labels.



**ICHAT AV** Plug in a Webcam, videocamera, or microphone for audio and video chats. Tip: In iChat AV, you can mouse over your buddy picture and click to reveal a sheet of up to 16 recent pictures, then click the image you want to display. Don't have a pic to pop in? Hook up your iSight (or other camera), click the generic picture, and choose Edit Picture. Then click Take Video Snapshot.

## Fax

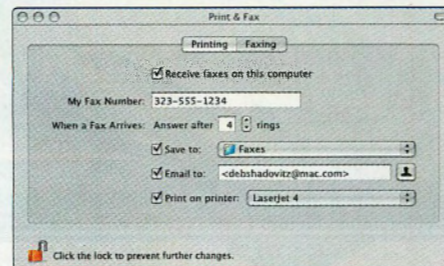
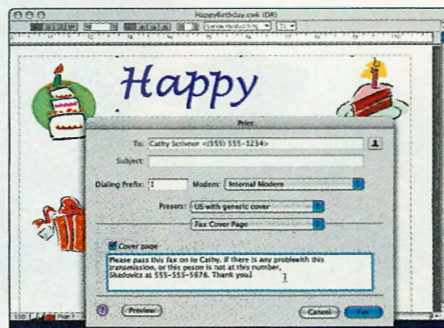
**WE'D BE THE HAPPIEST PEOPLE ON THE PLANET** if we never received or sent another fax again. Unfortunately, many people don't have a choice. Luckily, Apple has made faxing easier on everyone.

Sending is a no-brainer. Just plug a live phone line into your modem port, select Print from any document, then click Fax to bring up the fax dialog. If the recipient's fax number is in your Address Book, click the Address Book button next to the To field and double-click the fax number in the address list that appears. To enter a recipient straight into the fax dialog, type the name, followed by a space and the number between these marks: < > (see screenshot). If you want, check the Cover Page box and type a note in the field (there aren't any cover page templates). Then click Fax.

To view a fax's status, double-click the modem icon (fax machine) in the Dock, and then double-click the job listing. Before sending, you can click Preview to see how it'll look—save the preview document to keep a record of the fax that includes the time it was sent (stamped automatically at the top of each fax page).

To receive faxes, choose Print & Fax in System Preferences, then click the Fax tab and check the Receive Faxes option. Adjust the number of rings, and check whether you want to file the fax in a designated folder, email it, and/or print it.

If you need features like bulk faxing, cover-page templates, logging, or automation, you'll have to step up to a commercial fax app such as FaxSTF (\$89.95, [www.smithmicro.com](http://www.smithmicro.com)) or Page Sender (\$29.95, [www.smilessoftware.com](http://www.smilessoftware.com)).



**Top: Faxing is as easy as printing. This dialog comes up after clicking Fax in the Print dialog. Above: Wanna receive a fax on your Mac? Turn on that capability in System Preferences.**

#### TIME SAVINGS

No more walking down the hall to the fax machine. At one fax a week, that saves us about 20 minutes a month—and ensures we get even less exercise.

YEARLY SAVINGS

4 HOURS

## So Is Panther Worth \$129?

**ROUNDING OFF**, Panther can save you more than 256 hours a year. If you earn \$30 an hour, that's \$7,680 in savings. If you earn \$10 an hour, that's \$2,560 in savings. Even if you earn just \$1 an hour (like if you're a career juror or a really bad stripper), you still save \$256. Bottom line: At any wage, you'll save more than \$129—the cost of Panther—in efficiency and time.



MacAddict contributing writer Deborah Shadovitz talks so much about Panther and Jaguar that people think she's becoming an animal-rights activist.



# The New Unreal® Tournament.



The greatest gladiator sport ever created is redefined for 2004. Now, experience more than double the content of our previous model with refinements for the discriminating thrill seeker who likes their action fast, futuristic and gloriously bloody.

We introduce: the Unreal® Tournament range of vehicles. Just one of the massive new additions that comes standard with the 2004 edition. Pleasing to the eye, powerful to the touch, punishing to the enemy.

*As shown with optional In-door Med-Kit.*

0-40 MPH: 1.6 seconds | Top speed: 115.2 MPH | Chassis Dimensions: 10.9 x 15.6 x 8.1 ft | SM3-84 Gimbal-mounted cyclic dispersed-plasma acceleration railgun | Designed for rapid transportation across frozen wastelands

## 2004 MANTA

See our full line of 2004 Land, Air, and Space vehicles at [www.unrealtournament.com](http://www.unrealtournament.com).

- > SCORPION
- > AW-X
- > Liandri DH-85
- > LEVIATHAN
- > J-1280G Raptor
- > FIGHTER H
- > FIGHTER SK

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You'll be  
blown away.



You'll be  
impressed.



You'll be  
satisfied.



You'll be  
disappointed.



You'll be  
pissed off.

better living through smarter shopping

You can't beat wood when it comes to subwoofer cases. Case in point: the booming undertones of Altec Lansing's VS4121 (shown here)—its 6.5-inch bass driver made our home-office windows rattle (playing our own creations composed in Apple's loopy Soundtrack app, natch). At the other end of the speaker spectrum, we strained to hear our own voice played back over the iPod-attached Voice Recorder's 16mm speaker, and soiled our ears with yet another MP3 player that pales in comparison to our trusty iPod for most uses. Why all the music and notes-to-self? Music feeds the creative beast, and we gave our creativity a real workout with two all-in-one graphics suites, Canvas 9 and Macromedia's Studio MX 2004. In the near future, we'll torture-test the alleged king of graphics suites, Adobe Creative Suite.

## ThisMonth:

- 52 Canvas 9 Professional Edition *graphics suite*
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- 58 VS4121 *speaker set*
- 57 Wireless IntelliMouse Explorer *mouse*
- 60 Wireless Optical Desktop *keyboard and mouse*

### PLUS:

## TheHotList

62 The best of the best from recent reviews.

X Compatible with  
Mac OS X or later.

9 Compatible with  
Mac OS 9 or earlier.



If we were  
shopping for this  
type of product,  
this is the one  
we'd buy.

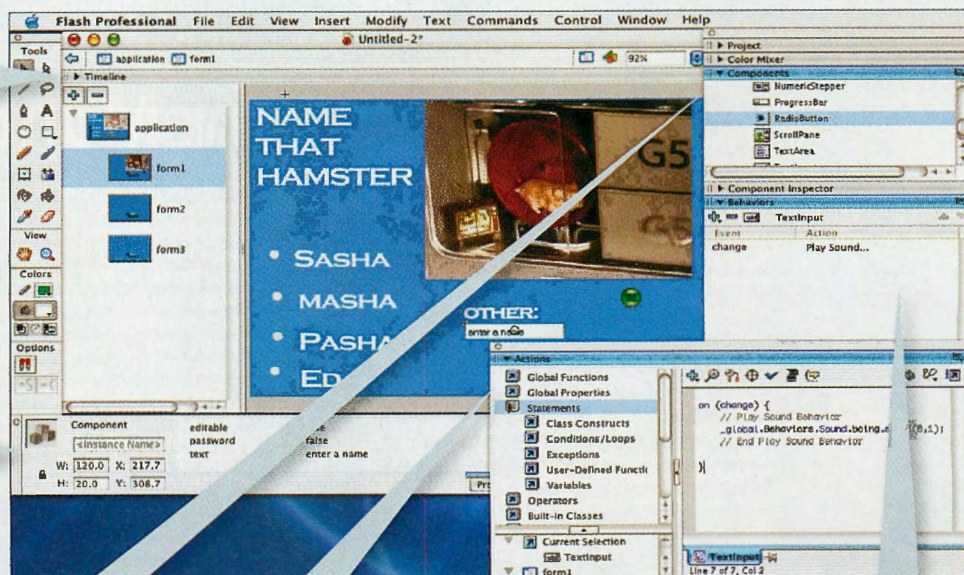


When you choose to develop a Form-based application, Flash stashes the Timeline behind the Timeline arrow and presents a logical series of panels.

When you select an object onstage, the Property Inspector shows available properties and parameters.

Prewired Form components let you drag-and-drop your way to an interactive Web application.

Behaviors (above) and Actions (below) can lead to a common goal—both panels say that when a user changes the value in the text box, a sound will play.



# Studio MX 2004

## WEB-DEVELOPMENT SUITE

Combining two top Web-development tools, Dreamweaver and Flash, with FireWorks for graphics and FreeHand for illustration, Macromedia's Studio MX 2004 is a Web monster: huge and massively powerful—but none too spry. Dreamweaver adds improved CSS and FTP, plus other acronymical support. Flash Professional has advanced video features, reformed ActionScript, and dead-easy Timeline Effects. FireWorks sports improved vector tools and text antialiasing options. This Studio MX update brings all four apps to new levels of integration, with more shared tools and resources than before. Thanks to a thoroughly unified interface built around Macromedia's groupable docking Panels and context-sensitive Property Inspector, it's easy to maintain consistent and efficient work habits—this partially redeems the sluggish performance that plagues all four of Studio MX 2004's applications.

### FLASH MX 2004 PROFESSIONAL

Flash, the most-changed app in the Studio 2004 lineup, is now available in two versions: Flash and Flash Professional—the latter includes advanced features for working with video apps; easy publishing for cell phones and PDAs; and true visual programming using Screens (also called Forms) that assist you in creating presentations and interactive, data-driven Web applications using a series of screens instead of the usual Timeline. Prebound data components, such as text-entry fields and check boxes, let

you tap into your database with no coding. Alternately, you can bust out Flash's ActionScript editor and hack custom interactions.

The new Timeline Effects feature makes simple animation child's play: Just lay down a symbol, select its frame in the Timeline, and pick Timeline Effects from the Insert menu. The Transition effect let you set fades and wipes; Transform moves, scales, rotates, or colorizes the symbol. Blur, Drop Shadow, Expand, and Explode effects are self-explanatory. All Timeline Effects let you specify basic parameters such

as the number of frames the effect will span, the speed at which it will play, the level of its alpha-channel transparency, and other effect-specific settings. Unfortunately, some effects preview and apply slowly—and occasionally choke, rendering an obscure JavaScript error message in lieu of the desired effect.

While Flash's new Timeline Effects and Screens feature saves time and tedium, ActionScript 2.0 will impede Flash ActionScript developers—now a bona fide object-oriented programming language, ActionScript 2.0 is completely different than its predecessors. Deep geeks will appreciate that ActionScript 2.0 is fully ECMA-262 Edition 4 compliant—if you're fluent in languages like C++ or Java, you'll be right at home.

The rest of us can still point-and-click to assign Symbol and Timeline Behaviors that control embedded video, audio, and Flash movie clips, and respond to users' mouse clicks, rollovers, and other triggers. As you apply behaviors, you can watch the Actions panel to see your commands in





ActionScript language—and you can work in the Actions panel to freely tweak behaviors in ways not possible with the Behaviors panel.

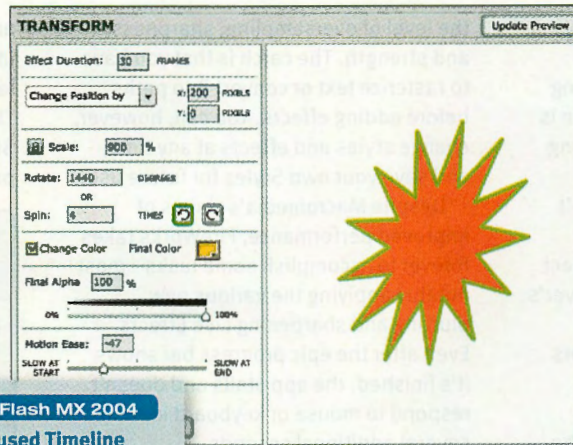
Flash is huge and convoluted, but its output is excellent. Most users may never touch Flash's advanced scripting features, but its visual programming tools helped us create amazing animations and interactive applications without ever seeing or thinking about its geeky underpinnings.

For our dough, Flash Professional is the star of Studio MX 2004. Whether you're making simple animated eye candy, advanced audio and video presentations, or complex, data-driven Web applications, Flash's customizable, project-specific interface makes it easy to focus on the task. Also, for many tasks Flash has tools for both visual- and code-based development. Casual Flashers probably haven't outgrown the previous version, but serious Flash developers need this update.

## DREAMWEAVER MX 2004

The backbone of Studio MX 2004, Dreamweaver, provides more—and more thorough—integration than its peers. Say you need to tweak a graphic after placing it in a Dreamweaver Web page. In previous versions, the Property Inspector's Edit button would launch that graphic file in an external image editor—FireWorks by default. MX 2004 brings some new editing icons: optimize (in FireWorks), crop, resample, brightness and contrast, and sharpness. The latter four work seamlessly within Dreamweaver. Optimize takes you directly to FireWorks' Optimize dialog and bounces you back to Dreamweaver when you're done.

When we downloaded a large site into Dreamweaver's Files window for testing, the import-progress window kept popping up in front of the other apps—and displayed an ominous server-not-responding message while the files streamed in. This oddball behavior happened over an SSH-secure FTP connection but not over standard



**Flash MX 2004**  
We used Timeline Effects to transform this star with a few mouse clicks; the same project would have been fairly tedious using last year's Flash.

FTP—while not ideal, if this is the trade-off for Dreamweaver's new tighter-security SFTP support, we'll tolerate it. File transfer over traditional FTP was smoother than in previous versions—in fact, Macromedia's claims of improved FTP support

passed our muster, sustaining prolonged, multiple-file uploads and downloads to a number of different servers. Note that we said Dreamweaver's FTP support—Flash and FireWorks share Dreamweaver's FTP service but not its SFTP support.

Once we finished importing a few thousand pages, Dreamweaver unexpectedly quit—though, to be fair,

those pages contained plenty of skanky code, dead links, and orphaned files.

Dreamweaver's core function—building Web pages—is stronger than ever. For example, Cascading Style Sheets (CSS) is now the default for text formatting. It's dreamy indeed, creating clean tag- and class-style definitions for document-wide and in-line formatting, respectively. You can fine-tune Dreamweaver's CSS handling via the Property Inspector and the Tag panel, or ditch it

entirely by unchecking Use CSS Instead Of HTML Tags in Preferences.

For layout positioning, you can use CSS Layers or good ol' reliable tables—both are present in the Insert panel's Common collection. Dreamweaver's all-too-familiar table-width kludgery has improved, thanks in part to the new Table Width guide, which labels onscreen tables according to their row and overall widths (the values change dynamically as you resize). You also get mini action menus for resetting widths, adding columns or rows, and merging and splitting cells.

Setting up a dynamic page using the app's PHP and MySQL support was an exercise in frustration. Dreamweaver's



**Dreamweaver MX 2004**  
Dreamweaver picked up on the CSS styles in this page we imported; now we can tweak it in the Design and Tag panels, with guidance from the easy-to-navigate Reference panel.



Web Application panel makes it easy to create database connections and queries, but installing and configuring the MySQL database and PHP engine is no picnic. Even after we set everything up and verified via a Web browser that it worked, Dreamweaver couldn't negotiate the absolute and relative paths to our testing server. We suspect the problem is related to Dreamweaver's local addressing: We experienced inconsistent unable-to-connect errors whether we specified localhost or 127.0.0.1 as Dreamweaver's host machine, though 127.0.0.1 proved the more reliable of the two.

Dreamweaver has reigned king of Web design for several years, but the monarch is showing its age. MX 2004 isn't a huge leap from last year's MX

the level of oversampling, sharpness, and strength. The catch is that you have to rasterize text or convert it to paths before adding effects. You can, however, change styles and effects at any time, and save your own Styles for future use.

Despite Macromedia's claims of improved performance, FireWorks takes forever to accomplish some tasks—most notably applying the various new blurring and sharpening Live Effects. Even after the epic progress bar shows it's finished, the app stalls and doesn't respond to mouse or keyboard input for several additional seconds.

FireWorks smokes Photoshop at Web graphics. JPEG photos, GIF bitmaps, and text-based graphics generated with FireWorks' new text-graphic generator look fantastic and boast smaller file

sizes than comparable Photoshop-optimized files. But if we had to choose, we'd pick Photoshop for its superior photo processing and solid Web graphics.

Finally, there's FreeHand MX—but since it hasn't been updated to the 2004 designation, we'll politely refer you to our FreeHand MX review (see June/03, p49). For the record, the 2004 versions of FireWorks and Flash pack enough type-savvy and vector tools to make FreeHand that much

more irrelevant, especially to the suite's intended audience of Web heads.

All four apps share some handy new features, such as massive contextual menus, completely customizable keyboard shortcuts, and smarter-than-undo History panels.

Some things about Studio MX 2004 are annoying, such as its unfortunate product-activation scheme, which enables the apps on one Mac and only one Mac—though you can deactivate and reactivate on another Mac as often as you like. Most annoying is the entire suite's erratic performance—we watched entirely too many spinning beach balls during regular operations and when launching and switching between apps. Plus, we experienced random errors and occasional app crashes.

If you work the Web for a living, you'll find workarounds for Studio's quirks

and buy this upgrade for its increased integration and the smattering of new features in FireWorks and Dreamweaver. The new Flash Professional makes Studio MX 2004 worth its upgrade price.—*Niko Coucouvanis*

## Studio MX 2004

### WEB-DEVELOPMENT SUITE

**COMPANY:** Macromedia

**CONTACT:** 800-457-1774 or 415-252-2000, [www.macromedia.com](http://www.macromedia.com)

**PRICE:** \$999 (Flash Pro Edition), \$899 (Flash Standard Edition), \$299 and up (upgrades)

**REQUIREMENTS:** 500MHz G3 or faster, Mac OS 10.2.6 or later, 256MB RAM (512 recommended), 500MB disk space



### Flash MX 2004 Professional

**GOOD NEWS:** Behaviors panel for codeless programming. Action panel for pure-code programming. Finally imports Illustrator files.

**BAD NEWS:** Uncooperative version control and FTP. Can't directly import Photoshop layers.



### Dreamweaver MX 2004

**GOOD NEWS:** CSS! Better table handling. Basic image- and Flash-editing tools onboard.

**BAD NEWS:** Can't save custom panel arrangements. Still has window-redraw, performance, and stability issues.



### FireWorks MX 2004

**GOOD NEWS:** Unmatched GIF and JPEG compression. Awesome antialiasing options.

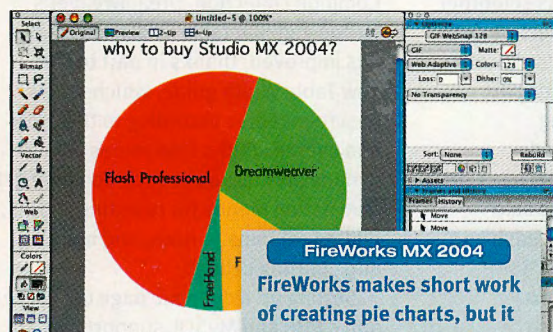
**BAD NEWS:** Painfully slow for photo editing. Uncooperative version control and FTP.



### FreeHand MX

**GOOD NEWS:** Smart, useful PostScript drawing tools. Well integrated with Flash and FireWorks.

**BAD NEWS:** Clunky, chunky performance. Uncooperative Objects panel and no Inspector.



in terms of features or stability, but it's still an outstanding product for Web heads—developers, designers, and dewy-eared newbies included.

## FIREWORKS MX 2004 & FREEHAND MX

FireWorks MX 2004 adds a smattering of new bitmap tools—mainly red-eye removal, updated Live Effects, and powerful new antialiasing options for better text graphics—and new Auto Shape vector-drawing tools that help you draw basic shapes or easily manipulate the included Auto Shape Objects (such as a clock, 3D cube, cog, and cartoon-style word bubble).

Live Effects are awesome for custom text treatments. Just type the text, then adjust it every which way: font face, color, size, alignment, kerning, and leading. You can even add motion blur, bevel, glow, and other effects. Custom antialiasing settings let you fine-tune



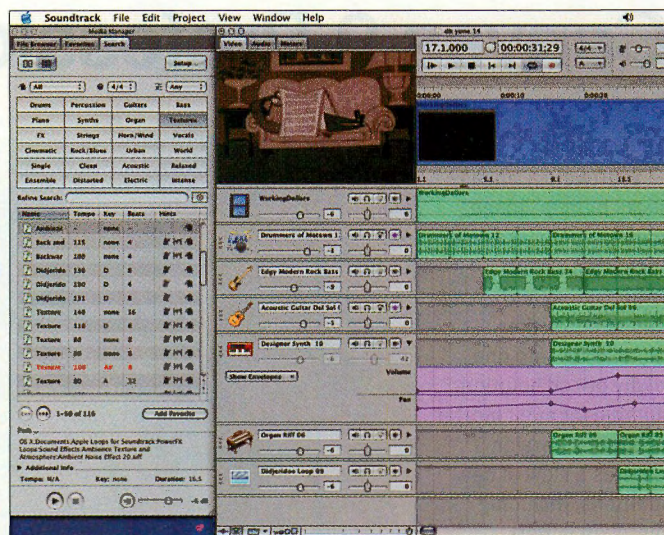
# Soundtrack

## MUSIC-COMPOSITION SOFTWARE

Making good music is a difficult endeavor, even for those with talent. Apple's fantastic Soundtrack software can help. This tool for creating royalty-free musical accompaniment for video work was originally bundled with Final Cut Pro 4. Now Soundtrack is a standalone app that's a blast to use and capable of generating truly useable music for real-world applications.

At the core of Soundtrack are 4,000 loops of prerecorded music, representing everything from straightforward rock drum patterns to more esoteric, worldly offerings such as tabla and djembe drums, standard jazz piano meanderings, Hammond B-3 organ passages, and even searing hard-rock guitar licks. If searching through 4,000 chunks of sound seems intimidating, fear not: Soundtrack's Media Manager window sorts loops by instrument, genre, tempo, and a variety of other factors, so you can quickly track down that elusive Beatlesque guitar jangle. All of the loops are available at 24-bit/

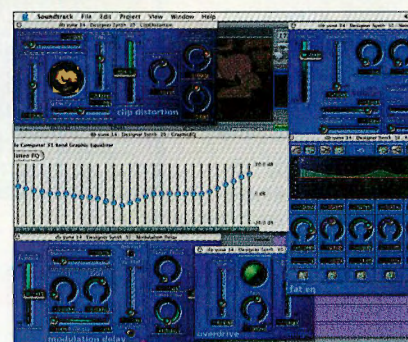
**Soundtrack's Media Manager (left) organizes the app's 4,000 clips by instrument and genre, and displays the tempo, key, and length in beats of each loop. Note the Volume and Pan envelopes for the synthesizer track in the main window (right).**



change the tempo of individual instrumental tracks.

It's easy to build up a happenin' bit of musical mayhem quickly, and that's when the fun really starts. In addition to envelope-style controls for volume and *panning* (placement of the sound in the stereo field), there are quite a few included effects modules for spicing up individual tracks. The standard array of equalization and reverbs are included, as well as a variety of offerings which have been repurposed from the popular Logic sequencing and recording software (also owned by Apple). Modulation Delay takes echoes and makes them swim in swirly waters; Sub-Bass boosts lower frequencies for that hip-hop bass badness that pushes subwoofers to their limits. Some of the included effects may overwhelm audio newbies, but hey, it's never too late to learn a new way to mangle sounds!

One capability that takes Soundtrack to the major leagues is automation: You can record virtually any modification to any parameter, slider, or control, which allows you to create complex mixing effects, dynamic sound effects and much more. Changing the delay time and wet-dry signal mix, or moving a guitar solo around the stereo field while it's playing are the bread and butter of studio engineers, and these types of automation effects are all implemented



**Audio purists will adore the capable graphic and parametric equalizers and Noise Gate filters, while hackers will wreak havoc with delays and distortion.**

at the core of Soundtrack.

Keeping Soundtrack fresh and relevant is its compatibility with audio files in the venerable Acid format, which includes slice and looping information—the key to Soundtrack's tempo-shifting voodoo. A separate, included Loop utility allows you to perform sample-slicing to your own imported audio files, but we found it wasn't as powerful as other dedicated loop-editing programs, such as Acid or ReCycle, when automatically performing this task.

If you need sweet-sounding music for your multimedia work and don't happen to know any talented musicians, say hello to a virtual band even your mother could love—one that won't clean out the fridge after rehearsals.—David Biedny

**You won't be embarrassed to use it for professional work.**

96kHz, and—of critical concern—they're good, meaning you won't be embarrassed to use them for paying, professional work.

Once you find your riff, simply drag it into the main timeline, where you can stretch it to fill as much time as you want. As you drag other clips into the timeline (up to 126 tracks), they automatically synchronize to each other—this works even when you audition loops by previewing them from the media manager. You can pitch-shift individual tracks, though trying to shift one more than a few tuning steps up or down causes some artifacting (noise). Also, while you can dramatically shift the tempo of the entire composition, you can't



**COMPANY:** Apple  
**CONTACT:** 800-795-1000 or  
408-996-1010, [www.apple.com](http://www.apple.com)  
**PRICE:** \$299

**REQUIREMENTS:** 500MHz  
G4, Mac OS 10.2.5, 384MB  
RAM, 5GB disk space

**GOOD NEWS:** Excellent-quality loops. Extremely easy to use. Real-time feedback of all controls. Extensive automation options.  
**BAD NEWS:** Hefty system requirements. Mediocre pitch shifting at many settings.

**MacAddict RATED**  
GREAT



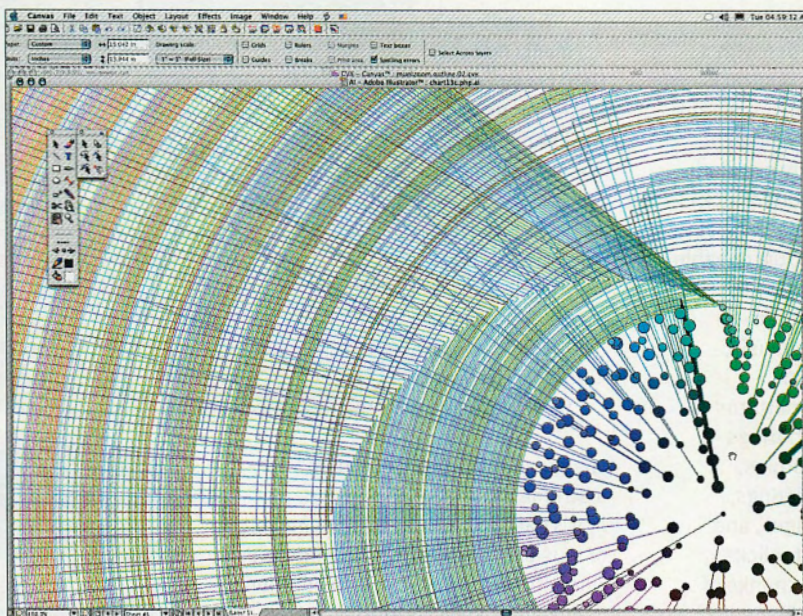
# Canvas 9 Professional Edition

## GRAPHICS SUITE

A jack-of-all-graphics software, Canvas packs bitmap-image editing, vector drawing, page layout, Web composition, and a number of other capabilities into one mildly priced solution suitable for most mortal designers. Version 9 features a slew of new additions, including improved import options, integration with ACDSee media-management software, advanced math functions, and improved scripting.

Usually when an application tries to be all things to all people, the result is mediocre at best. Not so with Canvas. It was among the first image editors running natively under Mac OS X, and this release is generally a pleasure to use, if a bit overwhelming. The app's requirements are moderate, and it felt relatively snappy even on our three-year-old 450MHz Power Mac G4.

The bitmap-image editing tools will be familiar to anyone who's manipulated raster art, and Canvas even sniffs out your default Photoshop Plug-Ins folder if you have one. Our plug-ins folder caused Canvas to throw an alert pop-up claiming



**How deep is Canvas?** This intricate design is a mathematical representation of the 366 days in a leap year divided by the 16,777,216 shades of RGB color—Canvas transposed the information to show HSV values graphically.

dream of—to get more precision, you'd have to step up to dedicated CAD or scientific number-crunching software. One odd omission is that there's no SVG (scalable vector graphics) import

option, despite an option to export SVG.

Canvas's new SpriteEffects technology lets you apply filters and effects to vector objects while preserving the objects' editability—this is common with bitmap graphics, but it's a huge addition for vector artists, who can now see their effect in place and tweak it (the effect and/or the original object) without rasterizing or exporting the image. Rudimentary 3D tools are available too: You can extrude paths and text, and rotate paths to create solids, though you can't work directly with any standard 3D formats like 3DF or DFX. Canvas isn't going to replace Maya any time soon, but it's easy to use and great for quick 3D effects. If you're attempting to import Illustrator documents, be sure to save them without PDF compatibility, as it befuddles Canvas.

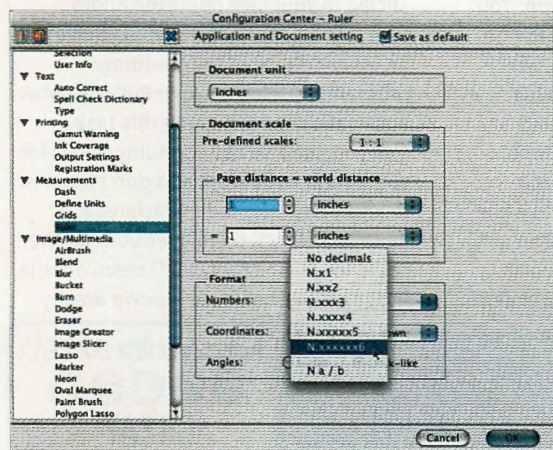
The Math Expression 2-D Plot is geek-art nirvana: It converts equations into vector graphics (polar or Cartesian), which is perfect if you need an exact logarithmic spiral or happen to know the math for whatever effect you need (it's also a fun way to experiment with art and math). The measurement palette includes a number of tools for calculating distances and angles, and the values automatically update to match as you manipulate objects onscreen. This feature works well in

that some of the plug-ins might not work, but things seemed to be OK. You can open layered Photoshop documents, and have the option to import them with layers intact, or as flattened objects. Exporting to GIF or PNG involves a certain amount of guesswork, as there's no preview of how your chosen color palette looks on your image until you open it up after saving. Strangely, when you select the curiously named Save As Web Images - GIF/JPG option, you get a preview. Huh.

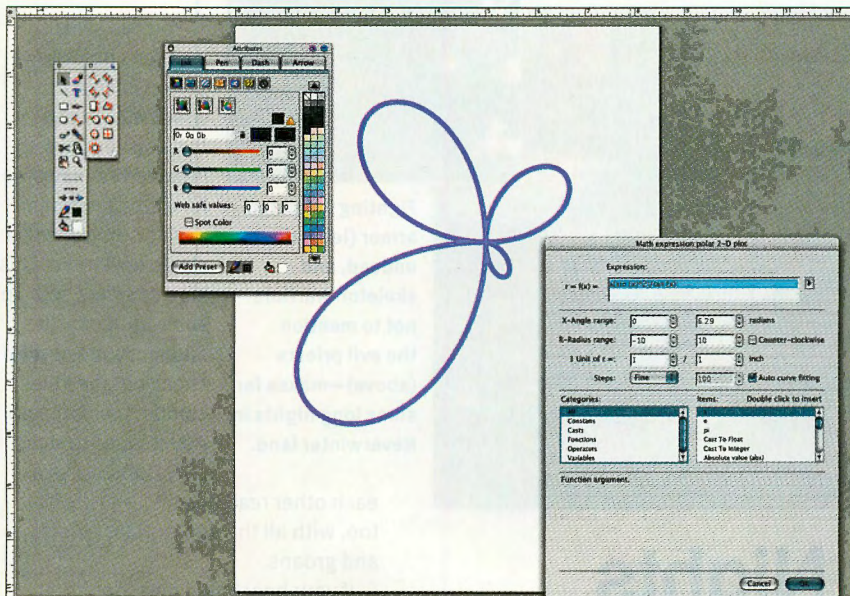
Vector art is still Canvas's strong suit. The drawing operations have a decidedly mathematical feel, and offer more in terms of measurement and precision than other vector-art apps. For

example, Canvas boasts a maximum document size of 2,000 miles by 2,000 miles (yes, miles); 2 billion control points on a polygon or Bézier curve; 2 billion objects per document; zooming in or out to an insane 114,000 percent; and decimal precision to the millionth place, which is the stuff technical illustrators and scientific plotters

**Canvas supports insane levels of scale and precision only a technical illustrator could love.**







conjunction with the rewritten Smart Mouse, which allows you to customize how and where your cursor snaps—including horizontal and vertical grids; object points and paths; angular, tangential, and parallel constraints; and more.

The Publication Editor is where Canvas falls short; it's fine for a basic newsletter or Web page, but if you're planning anything more ambitious, you need a dedicated page-layout program like InDesign. Canvas should include import and export filters for InDesign, Pagemaker, or Quark files, but it doesn't. Advanced features like hanging punctuation and multiple master pages are also lacking, and the few included templates are truly hideous. On the plus side, the Publication Editor's text-handling capabilities are good, and allow for fine tuning of tracking, kerning, and the like (though the process is a bit clunky). Exporting to Web documents gives you a choice of HTML or XHTML, and inline tags or CSS. You can export SWF (Flash) documents, but don't expect a whole lot of options or any animation. Strangely, the Save to Web wizard said we had the option to save our files directly to a server, but this wasn't the case—its Save dialog had no Save button.

The presentation module is

unimpressive, but fairly straightforward; at first, it choked on a PowerPoint presentation we tried to import, but when we tried again with the same presentation, it worked. There is, however, no PowerPoint export option—you're stuck with QuickTime export, which exports your slide show as a MOV file. The included templates are predictably cheesy—if you make more than two presentations per year or have



**Canvas comes with a DVD full of extras, including access to online images such as the Aquaesque Apple button above (which is no doubt a lawsuit waiting to happen).**

**Thanks to its mad math skills and logarithmic savvy, Canvas can translate cryptic equations into visual designs, and vice versa.**

to collaborate on a presentation, try Apple's Keynote instead.

You can automate your work in Canvas with Sequences (like Photoshop's Actions), or with custom AppleScripts. A number of prefab Sequences come preinstalled, and you can record your own—either way, you can edit them at any time. AppleScripting is much more powerful, but Canvas isn't AppleScript recordable, so it's also much more difficult. If you intend to share your scripts with your Canvas-using pals who run Windows, you can use Sequences, which work cross-platform.

Canvas 9 also supports scientific and GIS mapping data, but the required add-ons cost an extra 200 bucks apiece—unless you work with DICOM files and/or GeoSpace coordinates, you won't miss these features. The Scientific and Mapping editions are also sold as complete packages instead of add-ons. The boxed version comes with a DVD of extras, including a boatload of fonts and clip art. There's even an online search function built in, but the palette is missing a menu icon (one that's clearly visible in the Windows version), and the copyright and usability of its online images isn't immediately apparent, as Canvas seems to pluck images randomly from the ether. Otherwise, the included art is predictably *très gauche*, though we imagine the generic electrical symbols and technical icons will get more use, given the intended audience. Included typefaces (provided by URW) are dismal as well, with a few exceptions (Gudrun Zapf-Von Hesse's Alcuin, for example).

Canvas is a great value for a single-person shop, a student seeking a bit of everything in one box, or someone with highly specialized geographical or scientific imaging needs. Casual users can find cheaper alternatives piecemeal.—Paul Yoon



**COMPANY:** ACD Systems  
**CONTACT:** 800-733-6322, [www.deneba.com](http://www.deneba.com)  
**PRICE:** \$99.95 to \$399.95 (depending on version)

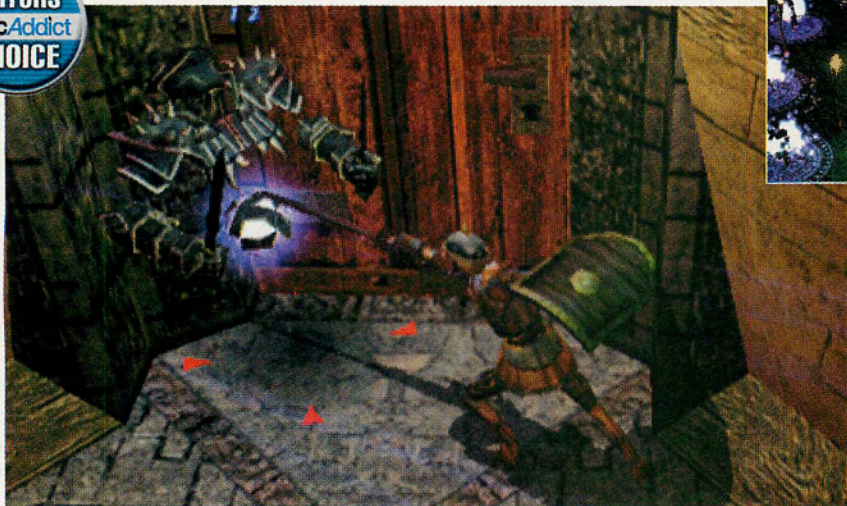
**REQUIREMENTS:** G3,  
 Mac OS 10.2, 128MB RAM,  
 100MB disk space

**GOOD NEWS:** Humane academic pricing.  
 Multipurpose. Easy 3D.

**BAD NEWS:** No import or export for page layout.  
 No SVG import. Ugly templates.

**MacAddict RATED**  
 GREAT





Fighting animated armor (left), the undead, and skeleton warriors—not to mention the evil priests (above)—makes for some long nights in *Neverwinter Nights*.

You can switch weapons quickly using Quickslots, which allows you to swap your two-handed broadsword for a crossbow or an axe and shield with a single keystroke. This kind of speed sets up some super battles: Zoom in your view to check out the killer combat animations. Adversaries dodge, parry, and strike at

each other realistically. They die well too, with all the appropriate gurgles and groans.

If your henchman dies, don't fret. Just use an item called the Recall Stone, which transports you to a home temple where you'll find the henchman resurrected. There you can also heal your own wounds and buy or sell equipment. When you die, you can respawn here in the temple at a loss of some gold and experience points, or you can load your last save and try again. Save often.

But don't just reload and plunge in. Stop for a breather and think it over. Some enemies need fresh strategy. And if you win a battle but are severely wounded, use the rest key instead of expensive healing potions. A quick rest will restore all your health and hit points.

All that's missing is the Aurora Toolset, a PC-only editing set you can use to create mods to customize your adventures. But as we reported a few months ago ("The Next Level," May/03, p34), data files and mods created by PC players work just fine on the Mac. And there are hundreds, maybe thousands, of them available by now—see "Got Mods?" left, for sources.

When you finish a computer-based game, the appeal for single-play usually diminishes. Not with *this* game. With unlimited adventures waiting for you to download them, *Neverwinter Nights* is a game you can play for months or even years.—John Lee

# Neverwinter Nights

## ROLE-PLAYING GAME

We planned to start this review with the bad news, but there isn't any. *Neverwinter Nights* is one of the best and biggest RPG titles ever.

An engaging story sprawls over four chapters, from the plague-ridden city of Neverwinter to nearby Luskan; then into a monster-strewn area called the Spine of the World where you battle goblins, wolves, zombies, golems, and dragons; and finally into a raging battle between armies of good and evil. Along the way, you meet hundreds of characters, carry out numerous quests, and gather tons of treasure.

Gameplay follows Third Edition Dungeons & Dragons rules, which will please purists and veterans. If you don't understand Third Edition D&D subtleties, however, don't despair. Your Mac does all the die-tossing and number work silently, so even role-playing newcomers can fight like pros.

You can create your own hero or heroine, or choose an existing character. From there, you're pretty much on your own. Instead of going with an expedition party, you set off adventuring and

completing missions and slicing hordes of bad guys to pieces.

Treasure is scattered everywhere—potions, gold coins, books, weapons, precious stones, rings, and armor. Use what you can and sell the rest. If you run out of space in your inventory, put your excess goodies in magic bags (these bags not only take up less space, but also reduce the weight of some objects).

## GOT MODS?

You need a PC to create mods for *Neverwinter Nights*, but mods created on PCs work on your Mac. Check the following Web sites for free downloads to extend your game.

[www.bioware.com](http://www.bioware.com)  
[http://nwvault.ign.com](http://http://nwvault.ign.com)  
[www.stratics.com](http://www.stratics.com)  
[www.planetneverwinter.com](http://www.planetneverwinter.com)  
[www.sorcerers.net](http://www.sorcerers.net)  
[www.ladiesofneverwinter.com](http://www.ladiesofneverwinter.com)

Place the .mod file in the Modules folder of your *Neverwinter Nights* package. If there is also a .hak file (which introduces new weapons, armor, creatures, and so on), put it in the folder named Hak. Then, when starting a new game, select Other Modules, and load your favorite.



treasure hunting with a single hired henchman, racking up experience points by



**COMPANY:** MacSoft  
**CONTACT:** 763-231-8100,  
[www.macsoftgames.com](http://www.macsoftgames.com)  
**PRICE:** \$49.99

**REQUIREMENTS:** 450MHz G4  
 or faster, Mac OS 10.2.6 or later,  
 256MB RAM, 32MB video card,  
 2.1GB disk space

**GOOD NEWS:** Huge, sprawling RPG. Gripping story. Tons of quests. Lots of action. Excellent animations, textures, and voice acting.  
**BAD NEWS:** No Aurora Toolset in the Mac version.

**MacAddict RATED**  
  
**AWESOME**





PHOTOGRAPH BY MARK MADEO



The compact Pyro is one of few drives capable of sucking video out of a camera in QuickTime MOV, Canopus AVI, or raw DV format.

the drive connects to your Mac like any other FireWire drive, with your captured video files neatly stowed inside the Media folder. Bonus: the Pyro DV Drive comes with everything you need: 4-pin-to-6-pin and 6-pin-to-6-pin FireWire cables, a battery-charging AC power supply, and a suave leather carrying case that you can wear on your belt.

The drive can capture video in raw DV format, but you can configure

## Pyro DV Drive

### DV-CAPTURING HARD DRIVE

Transferring video footage from a digital camcorder to your Mac's hard drive is a tedious task—which is why videographers dream of a straight-to-hard-disk DV recording solution. ADS Technologies has the wake-up call: a hard drive that can ride along on your belt, capturing footage from your video camera and converting it on the fly into editable DV.

#### A fantastic addition to any DV photographer's ditty bag.

The Pyro DV Drive houses a 30GB 2.5-inch IDE drive hooked up to an Oxford 911 chipset and a Lithium Ion battery that you can recharge via either your Mac's FireWire port or the included power supply. Out in the field, just turn it on, run a FireWire cable from your camera to the drive, and then marvel as the Pyro DV obeys your camera's record and stop commands and saves shots as sequentially numbered files. Back in your editing studio (or your home),

it to capture in MOV or AVI formats as well. Our Sony, Canon, and Panasonic DV camcorders got along fine with the Pyro, and the raw DV quality was as good as each camera could produce. The battery delivered more than four hours of recording time, which outlived the drive's 30GB capacity. And if you forget to erase the Pyro DV before taking it out on another shoot, just shove a paperclip into the quick-erase button hole to wipe out everything in the Media folder but spare anything else you may have stashed on the drive.

The only drawback is that it's easy to accidentally press the drive's Power button while recording—the belt-mounting carry case helps you avoid this, but a hold switch would be smart.

The Pyro DV Drive works exactly as advertised and is a fantastic addition to any DV photographer's ditty bag. If you work on tight schedules, the time you save on video conversion makes the Pyro worth its relatively hefty price.

—Rick Sanchez

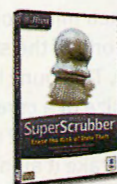
**COMPANY:** ADS Technologies  
**CONTACT:** 800-888-5244, [www.adstech.com](http://www.adstech.com)  
**PRICE:** \$650 (street)

**REQUIREMENTS:** FireWire-equipped Mac and digital video cam, Mac OS 9 or later

**GOOD NEWS:** Long battery life. Works exactly as advertised. Huge time saver.  
**BAD NEWS:** High price for storage size. No button-lock feature.

**MacAddict RATED**  
●●●●●  
**AWESOME**

# Got New Hardware?



Permanently remove data from your old Mac with **SuperScrubber's** military-strength disk sanitization.



And now use **AutoScrubber** to protect the data on your new Mac every day.

## ERASE THE RISK



**SuperScrubber.com**

(503) 520-9500

**Jiiva**

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# Elura 50

## DIGITAL VIDEO CAMCORDER



PHOTOGRAPH BY MARK MADEO

Today's MiniDV camcorders are living up to their mini moniker—and the Elura 50 is one of the smallest we've seen so far. This puny lightweight is about the size of a cereal snack pack, allowing you to tuck it into your jacket pocket and take it along everywhere. Unfortunately, due to its lackluster video performance, the only place you'll want to take this camera will be back to the store where you bought it.

The Elura 50's feature set has a lot going for it. It can capture still images at 1,024 by 768 to a MultiMedia Card, Secure Digital card (an 8MB SD card included), or DV tape. It also features a 10x optical zoom, but we recommend that you avoid its ludicrously pixelated 400x digital zoom like you would a Windows zealot. More welcome are image stabilization, 16-bit/48kHz sound, auto and manual controls, exposure compensation, Direct Print support, nine digital effects (fun, but only Black & White and Sepia are practical), nine wipe/fader effects, two special effects, slide show, and other nifty capabilities. You also get

**In a classic case of form over function, this svelte little camcorder looks great, but the video it captures doesn't.**

a rechargeable battery, but its lifespan is limited—we averaged about 30 minutes per charge. A battery charger is included, as are a USB cable (to snag still pics), a power adapter, a wireless remote, and video cables—but there's no FireWire cable to connect the camera to your Mac.

Shooting was simple; the controls were easy to use with standard menu navigation, but gripping the tiny lil' thing took some getting used to because of its vertical design. The sound quality was excellent when shooting in quiet rooms. The mic

picked up audio well—maybe a little too well. It allowed us to eavesdrop on a conversation from across a quiet room, but on other occasions it picked up air conditioning and wind noise—and although there is a wind-filtering audio setting, sound quality suffers when using it.

Under sunny skies, the Elura exposed scenes well with realistic color, even when shooting scenes with harsh reflections. The image quality, however, was mushy even in still images, and linear artifacts bordered contrasting edges. Nothing looked sharp, and panning the camera only exacerbated the creamed-corn effect. We did get slightly better video when we stood the camcorder on a ledge, but let's be honest: No one's going to seek out ledges or carry a tripod everywhere just to get good footage. And no, we weren't overly caffeinated—and yes, we had the image stabilizer turned on.

Indoors, things got worse. In a sunlit room, the camcorder balanced exposures well, but soft noise prevailed. Under room lights, the noisy video

resembled curdled cream. In low light, we had hardly any noise—but hardly any picture either, just black. No prob—the camcorder features the almighty Super Night mode. Sounds great, but in practice, it exposed some objects at the expense of others, and the increased noise level obliterated all clarity.

If Canon could somehow transplant the stellar image quality of its digital still cameras into the Elura 50, it might have one heckuva camcorder. Until then, we'll keep looking.—Kris Fong

## QUALITY?

**Contrast** When capturing objects with contrasting edges, the Elura produced linear artifacts that resulted in a coloring book–like effect.



**Sunshine** Though the still images we captured had resolution enough for 3 by 5 prints, our serene scenes were blasted with excessive noise.



**Indoors** While Cybil Sheppard might appreciate the Elura's soft video-image quality, we didn't.



PHOTOGRAPHY BY KRIS FONG



**COMPANY:** Canon  
**CONTACT:** 800-652-2666,  
www.canondv.com  
**PRICE:** \$799

**REQUIREMENTS:** FireWire-  
equipped Mac, Mac OS 9 or later

**GOOD NEWS:** Übercompact. Realistic color in well lit  
scenes. Nice crop o' features.

**BAD NEWS:** Wimpy video performance in low light. Soft,  
noisy images with linear artifacts. Super Night mode is a joke.

**MacAddict RATED**  
●●●●●  
**SO-SO**



# Rio Cali

## FLASH-BASED MP3 PLAYER

For people who listen to music primarily while doing some sort of rigorous sport, the iPod is not the ideal music player. iPods are slightly bulky (especially in a fanny pack), and even the best hard disk-based players can crash when jarred. Plus, runners don't browse through albums mid-sprint. Active types who want a small, basic portable music player should consider the flash memory-based 256MB Rio Cali.

The 256MB Cali is lightweight (1.8 ounces) and rugged (we dropped ours often), with a stylish shape and khaki-green color. It transfers music through slow-but-reliable USB 1.1, and you can supplement its internal memory with your own MMC or SD cards. The onboard menu provides quick access to features



**The Rio Cali is stylish, compact, and a good workout companion, but it doesn't support iTunes Playlists or AAC-encoded music.**

such as an FM tuner, stopwatch, five-band EQ, repeat and shuffle, power manager, and a Bookmarks capability,

which lets you set a point in a song that you can jump to later. The best part: Sennheiser clip-behind-the-ear earphones come with the player.

Here's what we don't love: First, the set-up instructions are wrong. They say you need to reinstall iTunes, but you don't. All you have to do is fish around on the bundled iTunes CD and drag the Rio plug-in (called RioCali Plugin.bundle) to your iTunes Library (user name > Library > iTunes > iTunes Plug-ins). Second, the Cali won't play iTunes Music Store AAC files.

Still, the 256MB Cali is tiny, rugged, and \$100 cheaper than a 10GB iPod—though without the iPod's browsable Playlists, auto syncing, calendar, and dozens of other features—and it works well. If you're more athlete than feature-obsessed audiophile, it might be all you need.—Narasu Rebbapragada



**COMPANY:** Rio

**CONTACT:** 800-468-5846 or 408-565-7000, [www.rioaudio.com](http://www.rioaudio.com)

**PRICE:** \$169.99 (128MB), \$199.99 (256MB)

**REQUIREMENTS:** USB-

equipped Mac, Mac OS X or later, 35MB disk space

**GOOD NEWS:** Stylish. Compact. Works solidly.

**BAD NEWS:** Won't play AAC files. Doesn't support iTunes Playlists.

**MacAddict RATED**



# Wireless IntelliMouse Explorer

## WIRELESS MOUSE

Microsoft's IntelliMouse Explorer has always been one of our favorite mice. It just *feels* right—and the newest wireless version is no different.

What is different, though, is that you can now scroll vertically *and* horizontally, using a scroll wheel that tilts from left to right. Horizontal scrolling is especially useful when navigating wide, unwieldy Excel spreadsheets and fat Finder windows in column view. Unfortunately, many apps don't yet support horizontal scrolling—get to work, developers!

The new IntelliMouse is wireless, has five programmable buttons, and comes in four colors, including the one we tested—black leather. Fashion deficiency aside, this is one fine rodent.—Cathy Lu



**Ignore the gross leather, and this mouse is an fine specimen.**

**COMPANY:** Microsoft

**CONTACT:** 800-426-9400, [www.microsoft.com/hardware](http://www.microsoft.com/hardware)

**REQUIREMENTS:** Mac OS 10.1 to 10.2.x, 15MB disk space

**PRICE:** \$64.95 (black leather), \$54.95 (metallic-gray,

platinum, or metallic-blue plastic)

**GOOD NEWS:** Horizontal scrolling is very useful. Mouse feels great.

**BAD NEWS:** Horizontal scrolling not supported in all apps.

**MacAddict RATED**



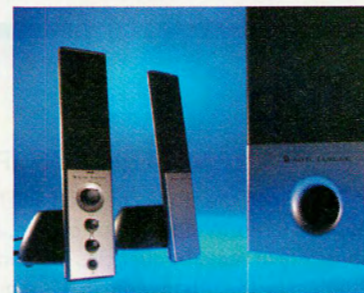
# VS4121

## SPEAKER SET

A key difference between good speakers and loud speakers is balance—not left-right balance, but tonal balance between the bass, midrange, and high-frequency sounds.

Altec Lansing's VS4121 set makes the grade, providing more midrange than most speaker sets designed for computer use. Each of the shielded satellites incorporates a downward-firing midrange cone and Altec's proven Micro Drivers for highs. The 6.5-inch, wood-encased sub easily keeps up and can thump the floor if you crank up the base via the controls mounted on the left-side satellite.

These speakers are a great companion to a desktop Mac, but no substitute for a home stereo.—Niko Coucouvanis



**These speakers sound as refined as they look.**

**COMPANY:** Altec Lansing

**CONTACT:** 800-258-3288, [www.altecm.com](http://www.altecm.com)

**REQUIREMENTS:** 1/8-inch minijack or RCA audio source

**PRICE:** \$129.95

**GOOD NEWS:** Great audio balance.

**BAD NEWS:** Pricey. Could be louder.

**MacAddict RATED**





# Media Reader for iPod

## PORTABLE MEDIA-CARD READER

Convenience usually involves a compromise of portability and capability. Case in point: Belkin's new Media Reader for iPod. It's the perfect conduit between your digital camera and the acres of storage space in your iPod—but it's about twice as big as our vision of a digital-lifestyle gadget.

Four included AAA batteries make the reader about half-again bigger than an iPod. If you're shooting all day, rocking out on your iPod at the same time, the batteries are an obvious plus for the strain they spare the iPod's battery. Given a choice, however, we'd prefer to travel light with a 'Pod-powered reader and recharge the iPod's battery more frequently rather than lug this big-ass reader around.

The reader supports CompactFlash

Types 1 and 2, SmartMedia, Secure Digital, MultiMediaCard, and Memory Stick—if you use the wee XD Extreme Digital cards, you're out of luck. You're also out of luck if you want to manage individual photos on your iPod—you import them as rolls instead of individual images, which is how they stay until you export them to your Mac or delete a roll.

Image transfer from media cards to the iPod is slower than you'd expect, given the FireWire connection; we shuttled an almost-full 64MB SD Card (seven 9MB TIFFs) into the iPod in 2 minutes 40 seconds. The same seven TIFFs flew into our Power Mac G5 in 1:45 via USB 2.0 (USB 1.1 took 2:10).

But moving images from the iPod into



**Maybe we're spoiled, but couldn't this thing be about half as big and twice as fast?**

the Mac is pure joy, with FireWire's speed and iPhoto's smarts: Just dock or plug in the iPod, and press iPhoto's Import button. This reader is solid, if oversized. But for some digital-camera toters, the \$100 it demands would be better spent on an extra media card.

—Niko Coucouvanis



**COMPANY:** Belkin  
**CONTACT:** 310-898-1100,  
www.belkin.com  
**PRICE:** \$109.99 (SRP), \$99 (street)

**REQUIREMENTS:** Docking iPod, supported media card (CompactFlash Type 1 and 2, SmartMedia, Secure Digital (SD), Memory Stick, or MultiMediaCard (MMC))

**GOOD NEWS:** Loads a gig of images onto your Mac in minutes. Slot cover keeps slots clean.

**BAD NEWS:** Big. Slow media cards equal slow transfer to iPod.

**MacAddict RATED**



# iTrip

## FM TRANSMITTER FOR IPOD

On paper, the iTrip is perfect: an FM transmitter with no batteries to replace or recharge, and access to the full spectrum of radio frequencies instead of the usual four stations. Problem is, the urban radio dial is a busy, noisy place. Add interference from power lines, airports, and solar flares (no kidding), and it can take forever to get a clear signal—forever meaning you may *never* get one.

When driving through an area with tons of radio stations, iTrip is pure frustration—and in busy commute-time traffic, tuning and retuning the device via your iPod requires a dangerous amount of attention. The iTrip doesn't always work, but we love it when it does.—Niko Coucouvanis



**Not perfect, but still best of breed.**

**COMPANY:** Griffin Technologies  
**CONTACT:** 615-399-7000,  
www.griffintechnology.com

**PRICE:** \$35  
**REQUIREMENTS:** Any iPod

**GOOD NEWS:** Still the coolest FM transmitter for iPods.  
**BAD NEWS:** Still emasculated by crowded airwaves.



# Voice Recorder

## MICROPHONE FOR IPOD

In a perfect world, we'd plug a microphone into our iPod and capture the sound of our surroundings in pristine, CD-quality stereo. In the real world, Belkin's Voice Recorder does just what its name implies: It records your impromptu brainstorm, interviews, blackmail fodder, and so on, saving the evidence as a date-and-time annotated monophonic WAV file on your iPod. You control the device via the iPod: record, save, or delete recorded notes, or play them through the recorder's wee 16mm speaker. The Voice Recorder lacks line-level input for high-fidelity audio, but it's great for low-fi sound capture.—Niko Coucouvanis



**Better for blackmail than bootlegging a concert.**

**COMPANY:** Belkin  
**CONTACT:** 310-898-1100,  
www.belkin.com

**PRICE:** \$59.99 (SRP), \$49.95 (street)  
**REQUIREMENTS:** iPod with dock connector, iPod software 2.1 or later

**GOOD NEWS:** Smart and small. Records a minute per megabyte.  
**BAD NEWS:** Way low-fi.





# Chronoscan

## BOOK-CATALOGING SYSTEM

Got books? The Chronoscan handheld scanner streamlines the process of cataloging your library. Just scan in your books' bar codes, and the companion Library software translates the ISBN numbers, then searches Amazon.com's database for any relevant information to add to your records. That's the theory. In reality, Library can't always find what it needs, and when it does, it won't print details beyond basic title and author info.

Library exports (and imports) book data in tab-delimited text. It can also produce the list in HTML, complete with your Amazon Associate ID, so if you happen to be peddling Amazon's wares on your Web site, just paste the HTML into your Web page and wait for your

Amazon-affiliate commission nickels to start rolling in.

Unfortunately, Library isn't exactly "of Congress" quality. The Amazon database is free and extensive, but not exhaustive—though, if necessary, you can enter data by hand. Though Library adds both books and filters by ISBN, it cannot show or print the ISBN number in list view. Library also won't print details for each book, only title, author, and cover-art thumbnails. These limitations basically render Library useless for serious inventory, even for a personal library. Unfortunately, the software is required (and sold separately at [www.chronopath.com](http://www.chronopath.com)); it's barely



This barcode scanner would be great, if not for its lame companion software.

worth the ten bucks.

The scanner itself has no apparent flaws and will read any bar code and spit out a string of numbers into any application that accepts text. Perhaps some enterprising developer will come to the rescue with capable software. With better software, the Chronoscan would be a formidable solution for any bibliophile who needs a library inventory.—Mary E. Tyler

**COMPANY:** Chronopath

**CONTACT:** [www.chronopath.com](http://www.chronopath.com)

**PRICE:** \$199.95, plus \$10 for required Library software

**REQUIREMENTS:** USB-equipped Mac, Mac OS 10.1 or later

**GOOD NEWS:** Scanner rocks.

**BAD NEWS:** Software blows.

MacAddict RATED



50-50

PHOTOGRAPH BY MARK MADEO

- 800 dpi
- For righties + lefties
- Optical tracking

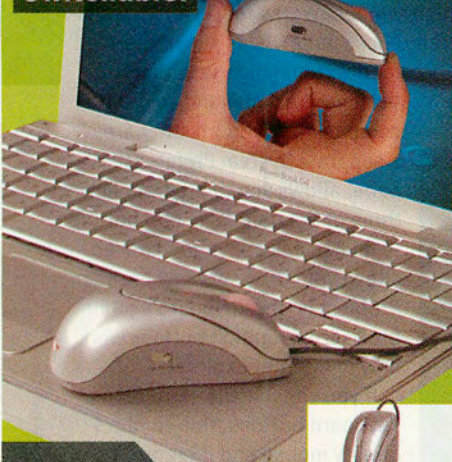
OPTICAL

## Mini-Mice for Macs

Three handy alternatives to touchpads for professionals on the go

800 dpi

Switchable.



USB Optical Mini Mouse  
400, 600, 800 dpi

- Switch allows selection of 400, 600, or 800 dpi resolution to adjust sensitivity
- Small and light weight
- Works in tight spaces

GME222

Wireless.

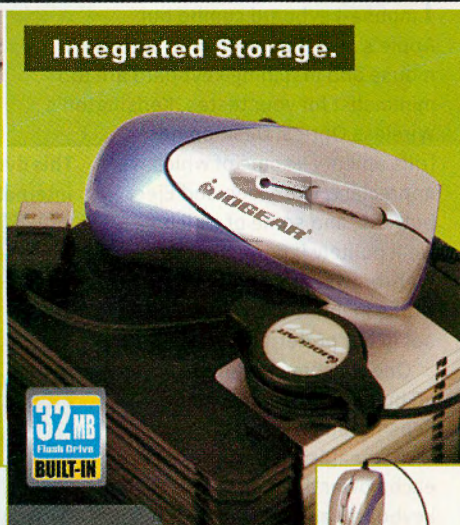


USB RF Wireless  
Optical Mini Mouse, 800 dpi

- Eliminates cords
- On/off switch conserves power
- Rechargeable thru USB charger (included)

GME223R

Integrated Storage.



Memory Mini Mouse 800  
with 32 MB Flash Memory

- Mouse and memory, all-in-one
- Stores the equivalent of 30 floppies
- Retractable ribbon cable

GME224M32



# Quicken 2004

## FINANCIAL-MANAGEMENT SOFTWARE

Still the leader in personal-finance software, Quicken provides powerful tools for analyzing your cash flow—all you need to do is feed it the appropriate financial statements.

There are six main new features to consider: iCal support, customizable views of investment accounts, downloadable financial news and indicator information, better support for Bill Pay, the Emergency Records Organizer, and a new Aqua look. Our favorite of these is iCal support: With a click of a button, you can create a Quicken calendar in iCal to remind you of scheduled transactions—if they're payouts, Bill Pay now lets you choose which of your accounts (up to ten) from

which to deduct the amount. In the realm of investment, you can now view your assets by Asset Class and Industry sector, and if a newspaper icon appears next to an asset, you can click it to get the latest headlines. This news feature could use some refining, though:

When we clicked the icon next to our test holdings of Apple Computer, Intel, and Cisco stocks, for example, we got stories in which these companies were mentioned but not the focus.

Users of Quicken 2002 and earlier

Name	Quantity	Price	Market Value
Apple Computer	1,000.00	2,112.70	2,112.70
Intel	1,000.00	2,112.70	2,112.70
Cisco Systems	1,000.00	2,112.70	2,112.70

**Quicken 2004's new News Alerts gives you the latest on your stocks, but the info it chooses to show is sometimes irrelevant.**

should appreciate the Aquaified 2004 upgrade. If you already use Quicken 2003 and aren't wowed by the new features, skip a year and check back in 2005.

—Narasu Rebbapragada



**COMPANY:** Intuit  
**CONTACT:** 800-446-8848 or  
650-944-6000, [www.quicken2004.com](http://www.quicken2004.com)  
**PRICE:** \$59.95

**REQUIREMENTS:** PowerPC, Mac OS  
9.2.2 or 10.1.5 (10.2.6 for iCal support),  
128MB RAM, 75MB disk space,  
Internet access for online features

**GOOD NEWS:** Total Aqua makeover. iCal support.  
Downloadable financial indicators.  
**BAD NEWS:** Related news isn't. Emergency  
Records Organizer is morbid.

**MacAddict RATED**  
SOLID

# Wireless Optical Desktop

## KEYBOARD AND MOUSE

If you're itching for a wireless mouse-keyboard combo but Apple's new Bluetooth one-button mouse and matching keyboard are too minimalist for your tastes, Kensington's Wireless Optical Desktop has frills aplenty—some of which we appreciate, like Sleep and Eject buttons, and some of which we'll politely ignore, like the Web-browser navigation that works in Internet Explorer but not in our preferred Safari.

One welcome feature is an ingenious power system: Kensington provides six rechargeable AA batteries—two each power the mouse and keyboard, and two more sit inside the wireless transmitter, which doubles as a battery charger.

Plus, the batteries arrived charged, and survived almost a month of mousing before they needed recharging.

The mouse has a smooth and simple design, with two buttons and a clickable

**This dynamic input duo works well, but the keyboard prefers Internet Explorer to Safari.**



scroll wheel. The keyboard works great, and its keys are stiff enough to give feedback while you type but don't require a heavy typing hand or make excessive click-clatter when in use. The software, Kensington's mighty MouseWorks for OS X (a System Preferences pane), is as superb as ever

for programming the mouse's buttons, tracking, and so on. The companion keyboard software, a separate System Preferences pane, allows you to program only three of the board's action buttons to launch any app or load a Web site in your browser—any browser. Problem is, the keyboard's other browser-navigation buttons work only in Internet Explorer.

If you can use the extraneous keyboard buttons, this combo's quality mouse and integrated battery charger make it a solid choice.—Niko Coucouvanis



**COMPANY:** Kensington  
**CONTACT:** 800-235-6708,  
[www.kensington.com](http://www.kensington.com)  
**PRICE:** \$134.95 (SRP), \$77.28 (street)

**REQUIREMENTS:** USB-equipped  
Mac, Mac OS 10.1 or later

**GOOD NEWS:** Smartly integrated battery charger.  
Solid hardware.  
**BAD NEWS:** Most keyboard action buttons aren't  
customizable. No caps lock light.

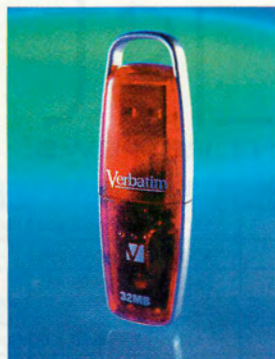
**MacAddict RATED**  
SOLID



## Store 'n' Go

### USB 2.0 FLASH DRIVE

Verbatim's Store 'n' Go is a credit to its flash-memory breed. On top of its zippy USB 2.0 performance (roughly a zillion times faster than old-style USB 1.1), which our G5 Power Mac supports, Store 'n' Go has just about everything we'd ask for in a flash drive: a tightly fitting cap, slick design, capacities up to 1GB, and even a trio of little raised dots on one side so you know which way is up when you plug it in. A Mac keyboard's USB 1.1 ports don't provide enough juice to power the little fella, and the drive is slow and inconvenient on older Macs. But Store 'n' Go is ideal for use with your G5's front-mounted USB 2.0 port.—*Niko Coucouvanis*



Finally, a fast flash drive.

**COMPANY:** Verbatim  
**CONTACT:** 704-547-6500  
or 800-242-7503,  
[www.verbatim.com](http://www.verbatim.com)

**PRICE:** \$21 to \$350 (street; depending on capacity—32MB to 1GB)  
**REQUIREMENTS:** USB-equipped Mac, Mac OS 8.6 or later

**GOOD NEWS:** Solidly built. Fast USB 2.0 capability.  
**BAD NEWS:** Won't work on a USB-equipped Mac keyboard.

**MacAddict RATED**  
●●●●●  
**GREAT**

## Memory Mini Mouse

### INPUT DEVICE/USB DRIVE

Iogear put 32MB of flash memory into a tiny mouse that's perfect for travel and laptop work. This optical mouse features two buttons and a subtly glowing scroll wheel; it's too small to handle the way you would a normal mouse (middle finger on scroll wheel), but its height makes it fairly maneuverable.

Plug it into your Mac, and the flash-memory volume mounts on the desktop. USB 1.1 flash memory is torturously slow, but it's a convenient way to transfer small files when there's no other option.

Add a retractable cable, USB extender cord, and cute little travel pouch, and what's not to love?

—*Cathy Lu*



There's 32MB of storage in this thing.

**COMPANY:** Iogear  
**CONTACT:** 866-946-4327,  
[www.iogear.com](http://www.iogear.com)  
**PRICE:** \$49.95

**REQUIREMENTS:** USB-equipped Mac, Mac OS X (works only as a one-button mouse in Mac OS 9 and earlier)

**GOOD NEWS:** Lightweight. Retractable cord.  
Two USB devices in one.  
**BAD NEWS:** USB 1.1 is slow. Doesn't feel superdurable.

**MacAddict RATED**  
●●●●●  
**GREAT**

PHOTOGRAPHY BY MARK MADEO

Three award-winning products • Now available in one powerful package



## Data Safety Suite

Backup, Undelete and Recover your valuable data

**Data Safety Suite is your best protection against data loss.**  
Judge for yourself. Download a fully functional demo today at [www.prosofteng.com/dss](http://www.prosofteng.com/dss)

**PROSOFT**  
engineering inc.  
[www.prosofteng.com](http://www.prosofteng.com)

MacReviewZone.com  
★★★★

Macworld 2003  
Best of Show  
★★★★

Data Backup

Wertung ●●●●● 1,9  
MACUP

MacReviewZone.com  
★★★★

Data Recycler

EDISON  
AWARD  
CHOICE

AppleLink  
★★★★

Data Rescue

Data Safety Suite is available at

Apple Store

Fry's

macZONE

ClubMac

MacMall

COMPUSA.com

or call 1877-4PROSOFT



# the HotList

THE BEST OF THE BEST FROM RECENT REVIEWS

**SHOPPING?**  
HERE'S WHAT WE  
RECOMMEND

## NEW THIS MONTH



### Nikon Coolpix 5400

"Beautiful, sharp...exposures." "Great color." The "most detailed images." No wonder *MacAddict* Senior Editor Kris Fong proclaimed the 5.1-megapixel Nikon Coolpix 5400 the best new prosumer digital camera.



### Olympus D-560 Zoom

For the more budget-minded camera lover, Kris recommends the Olympus D-560 for its "sharp images with well-balanced exposures."

### WeibeTech Fire800



Can a big, fat hard drive find love? It can from *MacAddict* Reviews Editor Niko Coucouvanis, who called the WeibeTech Fire800 "a king among hard drives."

## SOFTWARE

### AUDIO

IK Multimedia AmpliTube Live	\$129.00	Nov/03, p46	Don't think software can replace monster guitar amps? It can.
MOTU Digital Performer 3	\$795.00	Feb/02, p58	This pro-audio app has a great array of features.
Propellerhead Software Reason 2.5	\$449.00	Sep/03, p55	It's earned its rep as the top software sound studio.

### GAMES

Aspyr Jedi Knight II: Jedi Outcast	\$49.95	Feb/03, p37	Fantastic gameplay with both weapons and The Force.
Aspyr NASCAR Racing 2002 Season	\$39.99	May/03, p57	Realistic NASCAR racing on a Mac? Believe it.
Aspyr The Sims Unleashed	\$29.95	May/03, p58	Pixel-pets abound in the best Sims expansion pack yet.
MacSoft Unreal Tournament 2003	\$49.99	Oct/03, p44	Blood and gore. Violence. More blood, gore, and violence.

### GRAPHICS & LAYOUT

Adobe Acrobat Professional 6	\$699.00	Nov/03, p50	If you're in pro publishing, this is one must-have app.
Adobe InDesign 2.0	\$609.00	May/02, p50	Look out, Quark—Adobe's rival layout tool kicks butt.
Adobe Photoshop 7	\$609.00	Jul/02, p46	Picture-perfect pixel pusher moves to Mac OS X.
Adobe Photoshop Elements 2	\$99.00	Dec/02, p40	This app has most of Photoshop's power for \$500 less.
FontLab 4.5.2	\$549.00	May/03, p53	The font editor all we type geeks have been waiting for.
Hemera Photo-Objects	\$99.00	Nov/03, p56	50,000 quality images for under a hundred bucks.
Macromedia Dreamweaver MX	\$399.00	Sep/02, p44	Our favorite Web-design tool gets a strong upgrade.
Macromedia Flash MX	\$499.00	Jul/02, p51	It started in animation; now it can do anything.
Macromedia FreeHand MX	\$399.00	Jun/03, p49	In the race with Adobe Illustrator, FreeHand pulls ahead.

### PRODUCTIVITY & UTILITIES

Apple Keynote	\$99.00	Apr/03, p48	This presentation app was built for Mac OS X—and it shows.
Bare Bones Software BBEdit 7.0.1	\$179.00	Mar/03, p52	By far the most powerful text editor money can buy.
Microsoft Office v. X	\$499.00	Feb/02, p42	The 800-pound gorilla of productivity applications.
Prolific Publishing Marine Aquarium 2	\$19.95	Aug/03, p54	OK, it's just a screensaver—but it's the coolest one ever.

### VIDEO & ANIMATION

Adobe After Effects 5.5	\$649.00	May/02, p49	This motion-graphics stud improves its 3D powers.
Apple DVD Studio Pro 1.5	\$499.00	Oct/02, p55	Apple's essential DVD-burning app gets even better.
Apple Final Cut Pro 4	\$999.00	Sep/03, p44	This kick-ass video-editor now includes four new apps.

## HARDWARE

### ACCESSORIES

Dr. Bott's extendAIR Direct	\$149.95	May/03, p51	Make AirPort Extreme's range noticeably more extreme.
Formac Studio TVR	\$299.00	Oct/03, p48	Watch TV, record TV, digitize tapes—what's not to like?
Kensington Expert Mouse	\$127.95	Oct/03, p60	Optical trackball plus scroll wheel equals killer controller.
MacWireless Power Over Ethernet	\$29.98	Jun/03, p61	Mount an AirPort Base Station 250 feet from AC power.
Palm Zire 71	\$299.00	Aug/03, p44	A PDA, digital camera, and MP3 player all rolled into one.

### AUDIO

Apple 20GB iPod	\$399.00	Jul/03, p44	The world's greatest MP3 player gets smaller and cooler.
Digidesign Mbox	\$495.00	May/02, p59	This audio interface is a traveling musician's delight.
Griffin Technology iTrip	\$35.00	Aug/03, p52	This iPod FM transmitter uses the entire frequency range.

### DIGITAL CAMERAS

Canon PowerShot S230 Digital Elph	\$399.00	Mar/03, p48	A great 3.2-megapixel camera in a tiny, low-cost package.
Leica D-Lux	\$900.00	Oct/03, p46	Exceptional style married with exceptional image quality.
Nikon Coolpix 5400	\$799.95	Dec/03, p22	This prosumer camera handles well and shoots even better.
Olympus C-4000 Zoom	\$449.00	Jan/03, p52	Great image quality, 4 megapixels, and versatile controls.
Olympus D-560 Zoom	\$249.95	Dec/03, p22	This affordable point-and-shoot produces great images.

### DISPLAYS

Apple Cinema HD Display	\$1,999.00	Aug/02, p40	This 23-inch, 1,920-by-1,200-pixel beauty inspires lust.
Formac gallery 2010	\$1,199.00	Jan/03, p47	Bright, fast, huge—and it costs only \$.0006 per pixel.

### PRINTERS

Brother HL-1870N	\$699.99	Aug/02, p45	Need a sturdy laser printer? This one's a workhorse.
Epson Stylus Photo 2200	\$699.00	Oct/02, p42	The most stunning photo printer we've ever tested.

### STORAGE

LaCie d2 200GB FireWire 800	\$339.00	Jun/03, p47	FireWire 800 speed meets solid-as-a-rock construction.
OWC Mercury Elite Pro	\$309.99	Jul/03, p53	This 180GB FireWire 800 drive outpaces the competition.
WeibeTech Fire800	\$589.95	Dec/03, p53	Hefty 300GB capacity combines with speedy performance.





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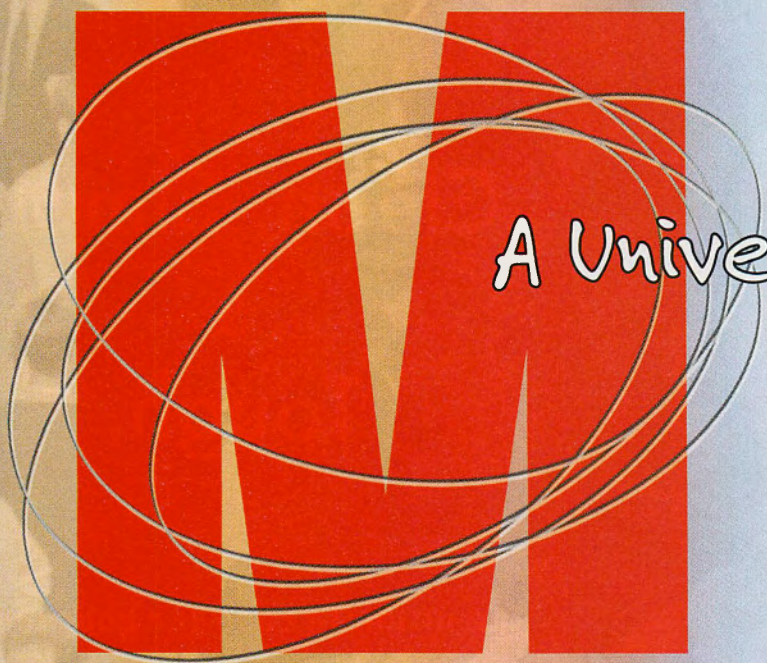
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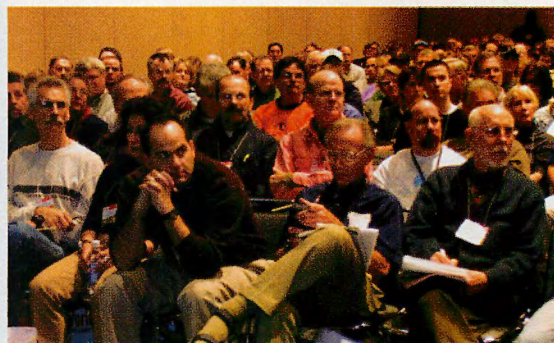
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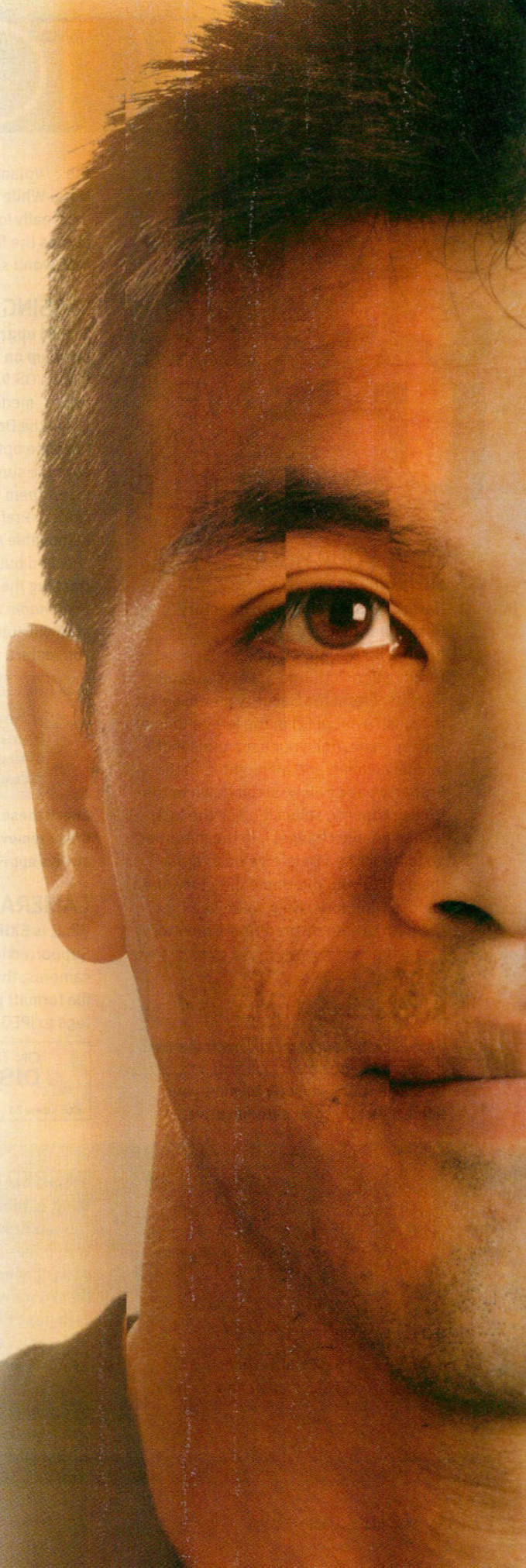
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# 66 HOW TO

because inquiring minds have the right to be inspired

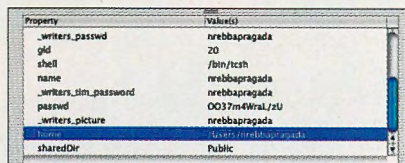
GOT A QUESTION?  
NEED ADVICE?

## ask US WE CAN HELP

### MOVE YOUR HOME DIRECTORY

How can I move my Home directory  
to an external drive?

Just fire up NetInfo Manager (Applications > Utilities), select Enable Root User from the Security menu, select the slash symbol (/) in the left column of the top pane, find your user name in the middle column, and highlight it. In the Property pane below, scroll down to the Home property, select it (click the lock icon to enable changes). In the menubar, go to Directory > Delete Value to erase the path to your old Home directory, then choose Directory > New Value and type the path to your desired Home directory



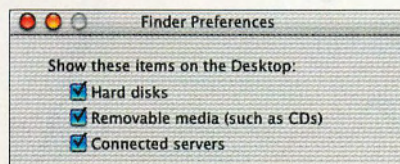
Use the NetInfo Manager to move your  
Home directory to an external drive.

(i.e., /Volumes/externalHD/new user).  
Note: While you can take your new  
externally located home directory and  
access the files on another Mac, that  
Mac won't see you as a distinct user.

### MISSING CD-ROM ICON

Since I upgraded to Mac OS X, CDs don't  
show up on my desktop. What gives?

In Mac OS 9, icons for functioning  
drives, media, and servers always show  
up on the Desktop. In Mac OS X, you  
have the option of hiding these icons.  
To make sure CDs show up when you  
insert them into your Mac's drive, go to  
Finder > Preferences and make sure the  
Removable Media box is checked. If it is  
checked but CDs still don't mount, try  
trashing the com.apple.finder.plist file  
(user name > Library > Preferences)—your  
Mac will automatically recreate it when  
you restart.



Check these boxes to make sure your hard  
drive, removable media, and server icons  
always appear on the Desktop.

### CAMERA INFO

What is EXIF data?

Supported in just about all digital  
cameras, the EXIF (exchangeable image  
file format) protocol adds metadata  
tags to JPEG files. These tags contain  
information such as  
aperture size, lens  
focal length, flash  
information, exposure



The EXIF protocol saves a wealth of  
information about digital photographs.

settings, shutter speed, file size, and  
camera model. A variety of applications,  
such as the free Simple EXIF Viewer for  
Mac OS X (<http://homepage.mac.com/aoozer/EV>), can display this data. In  
iPhoto, you can highlight a picture and  
select Show Photo Info from the File  
menu to view EXIF data.

### APPLEWORKS SLOWDOWN

Why is running AppleWorks in  
Mac OS X so slow?

The problem resides in AppleWorks' Recent Items folder (user name >  
Documents > AppleWorks User Data >  
Starting Points > Recent Items). For  
every file you create in AppleWorks,  
AppleWorks creates an alias so you can  
easily access files from the Starting

## quick answers TO QUICK QUESTIONS

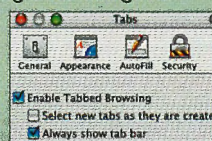
### BRUSH SIZES

What is the keyboard command for  
increasing brush size in Photoshop?  
Press the left-bracket key ([) to make  
the brush smaller, and the right-  
bracket key (]) to make it bigger.

### TABBED BROWSING

What is Tabbed Browsing?

Tabbed Browsing lets you open multiple  
Web pages in the same window by  
assigning each Web page a tab within  
that window. Clicking a tab brings its  
Web page to the front. You can  
enable Tabbed Browsing in Safari  
by opening the  
app's Preferences, clicking the Tab  
Keep tabs on your  
browsing in Safari.



button, and checking the Enable Tabbed  
Browsing check box.

### FUNCTION KEYS

How can I get my  
PowerBook's function  
keys to act as function  
keys instead of volume  
and brightness controls?

Hold down the fn key in the lower-left  
corner of your PowerBook's keyboard  
while pressing the appropriate F-key to  
use an F-key as an F-key.







No whining—  
anyone  
can do this!



It'll take some  
effort, but you  
can do it.



This stuff's  
for the pros.

## UNIX UNIVERSITY



### COPY THAT

#### How do you duplicate a file in Unix?

To duplicate a file via the command-line, use the cp (copy) command. For example, to duplicate a file named myfile.doc and call it myfile.doc.bkp within the same directory, type this:  
`cp myfile.doc myfile.doc.bkp`

To create a duplicate of everything in a directory (except directories) use the \* wildcard:

`cp /folderold/* /foldernew`

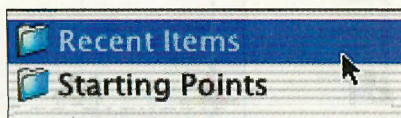
To duplicate every file in the

/Documents folder into a folder called BackedupFiles:  
`cp /Documents/* (space)  
/BackedupFiles`

To copy directories, use the -r flag:  
`cp -r /Documents/* (space)  
BackedupFiles`

To copy the myfile.doc from the Documents folder to your working directory, end your command with a period, like so:

`cp /Documents/myfile.doc .`



Empty this folder to speed up AppleWorks.

Points window. If there are too many aliases in this folder, AppleWorks will screech to a halt (and we mean *halt*). Emptying this folder will bring AppleWorks back to full speed.

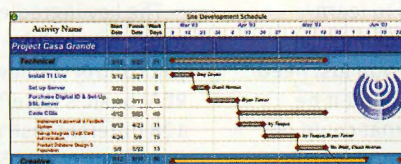
### CALENDAR SHARING

Employees of my small business, which runs on Macs, need to share projects, schedules, and calendars. What software would you recommend? AEC Software's FastTrack Schedule 8 (\$22,475 for 25 licenses or \$299 for single user, [www.aecsoft.com](http://www.aecsoft.com)) works through a network server, allowing users

to share project-tracking information—including schedules, people, equipment, and materials. Now Software's Now Up-to-Date & Contact (\$129.95 per user, [www.nowsoftware.com](http://www.nowsoftware.com)) lets cross-platform users share contact and calendar information. Another option is Microsoft's Exchange Server system, which works best with Mac OS 9—only



Macintosh Outlook or Mac OS X—only Entourage through a plug-in.



Use FastTrack Schedule 8 to track business projects across a network.

### MICRO MAIL PRINT

When I print from Apple's Mail program in Mac OS X, the print is microscopic.

How can I make my prints readable?

Resize your email window. If you make the email window larger, the type will print larger. If you make the email window smaller, the type will print smaller.



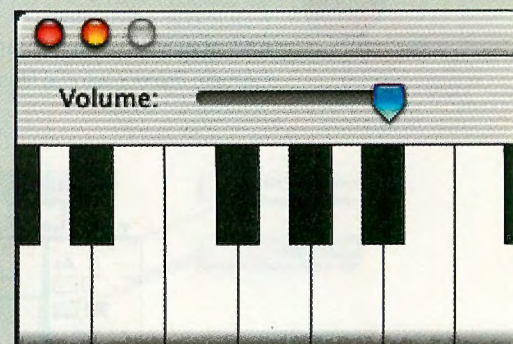
### DISK UTILITY OPTIONS

Norton Disk Doctor can't fix the problems on my drive. What else can I do?

While no disk utility can guarantee a fix, before you reformat (i.e., erase) your hard drive, try Alsoft's Diskwarrior (\$79.95, [www.alfsoft.com](http://www.alfsoft.com)) or Micromat's Drive 10 (\$69.95, [www.micromat.com](http://www.micromat.com)), both of which can fix some problems that Norton can't.



## ThisMonth

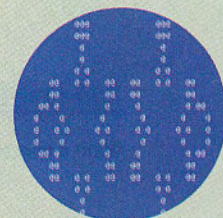


### 68 Build Your Own Music Maker

Your Mac has a hidden stash of instrument sounds—we show you how to build a keyboard that'll let you play them all.

### 72 Play Hidden Unix Games and Other Oddities

The Terminal isn't just a geek hangout—it's a secret hideout filled with classic games. Wanna play? We show you the way.



### 74 Make Widgets with Konfabulator

If you can think it, you can make an app to do it for you—with some realistic caveats, of course. Take our introductory course to the art of Widget-making.



Seven years of handling tech support for Apple, Power Computing, and a Texas school district have given Buz Zoller Mac superpowers.

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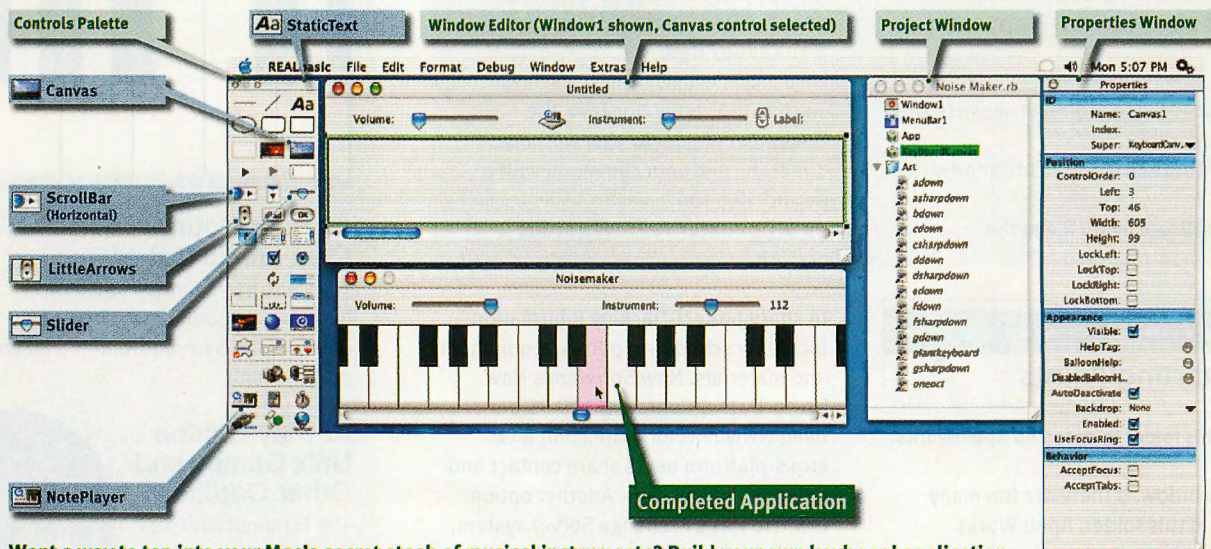
# Build Your Own Music Maker

by Erick Tejkowski



## WHAT YOU NEED

- Mac OS X (\$129, [www.apple.com](http://www.apple.com))
- QuickTime 5 or later
- REALbasic 5 or later (\$149.95, [www.realsoftware.com](http://www.realsoftware.com))
- Music Project tutorial files (on the Disc)



Want a way to tap into your Mac's secret stash of musical instruments? Build your own keyboard application.

Pianos, guitars, sitars, tubas—musical instruments can be frivolous expenditures if you just want poke around but don't want to invest the time needed to learn them. Lucky for you, your Mac has a closet full of musical

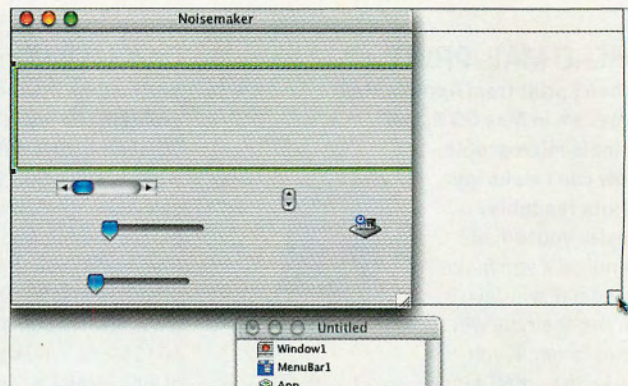


instruments stashed inside—you just need to coax them out to play. Wouldn't it be great to have an application that could put all of those instruments at your fingertips, playable from your own desktop keyboard?

You can—and we show you how to build that app yourself.

The key ingredient here is REALbasic. We show you how to use it to build a desktop piano-style keyboard that will let you control volume and instrument selection, and then use REALbasic's NotePlayer control to play a tune, using one of 128 different instruments and sound effects from Apple's QuickTime Music Synthesizer (see "What's That Sound?", p70, for a complete list of instruments).

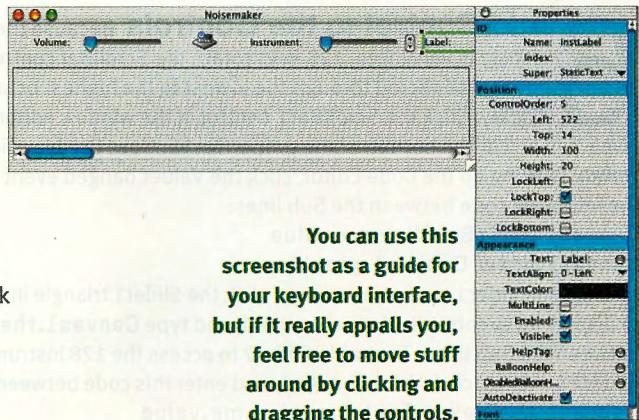
**1 Gain Some Control** Launch REALbasic to start a new project. In the properties window for Window1, type a name for your application's interface in the Title field. From the controls palette, drag a NotePlayer, a Canvas, a horizontal ScrollBar, a LittleArrows, and two Slider controls into the window editor (the empty Untitled window that will become your keyboard interface). Click the Canvas1 control in the window editor. Change Width to 596 and Height to 99 in the properties window, and then resize the window to fit. ScrollBar1 will scroll the keyboard so you can play different keyboard octaves—click its control in the window editor, and set Width to 596 in the properties window. Slider1 will adjust volume and Slider2 will change the instrument—click each control and set Maximum to 127 in the properties window.



After changing the Canvas1 control's width and height, resize the window so it displays all controls fully.

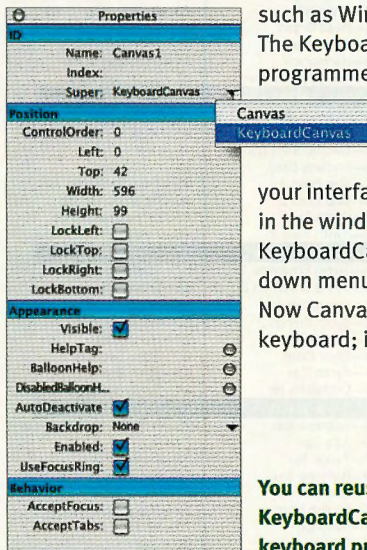


**2 Build the Interface** Drag three StaticText controls from the controls palette into the window editor. Click StaticText1, and in the properties window, type *instLabel* in the Name field and check the Visible box; this control will display the current instrument number used by the NotePlayer (the default is 1, a piano sound). Drag this to the right of the LittleArrows control, which will allow you to change instrument numbers incrementally. The remaining two StaticText controls will label the sliders. Click StaticText2 and in the properties window, type *Volume:* in the Text field and check the Visible box. Click StaticText3, type *Instrument:* in the Text field, and check the Visible box. Then position all controls in your project so they look like those in our screenshot (right), and save your project in its own folder as a REALbasic Standard Project.



You can use this screenshot as a guide for your keyboard interface, but if it really appalls you, feel free to move stuff around by clicking and dragging the controls.

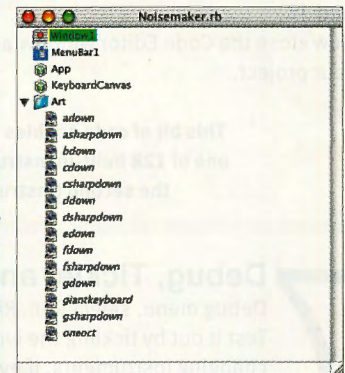
**3 Add Some Class** One of the great things about REALbasic is that you can use practically any *class* (a template that describes how an object behaves) from another project with your current one—we created a custom keyboard class for you, so you don't have sweat it out on your own unless you want to. Grab KeyboardCanvas from the Disc, and drag it into the project window (the one that holds project components such as Window1 and App) to add it. The KeyboardCanvas class is already programmed to trigger note values. By using it, you gain the benefits of the class without the hassle of recreating it. To tie it to your interface, click the Canvas1 control in the window editor, and then select KeyboardCanvas from the Super drop-down menu in the properties window. Now Canvas1 has the functionality of a keyboard; it just doesn't look like one yet.



You can reuse our homemade KeyboardCanvas class in your own keyboard project to play music.

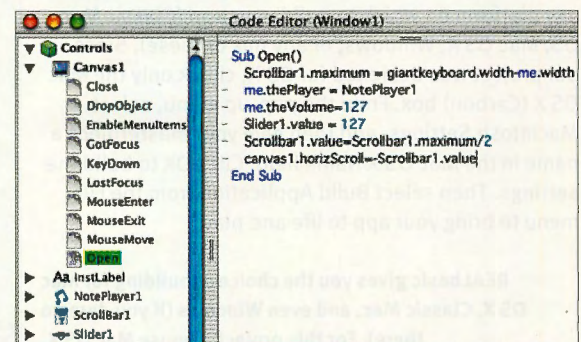
**4 Design Is Key(board)** Our KeyboardCanvas class calls upon a collection of 14 PICT images to create the look of a piano keyboard. One image displays all 128 keys on the keyboard. Another displays a single keyboard octave. The remaining twelve show a keyboard octave with a particular key pressed. We included all 14 images on the Disc to save you *a lot* of time. Feel free to customize the images in your favorite graphics application. To add these graphics to your project, copy the Art folder from the Disc (in the Music Project folder) to the same folder that holds your project. Then drag the Art folder from your project folder to the project window to add them.

Once you drag our keyboard images into your project window, the KeyboardCanvas class can access them for display.



**5 Code the Canvas** To make Canvas1 follow the settings dictated by the NotePlayer, ScrollBar, and Slider controls you created, you need to do a little coding. In the window editor, double-click the Canvas1 control to open the Code Editor window. Under the Canvas1 set of events, click the Open event and add the following code between the Sub Open and End Sub lines:

```
Scrollbar1.maximum = giantkeyboard.width-me.width
me.thePlayer = NotePlayer1
me.theVolume=127
Slider1.value = 127
Scrollbar1.value=Scrollbar1.maximum/2
canvas1.horizScroll=-Scrollbar1.value
```



This bit of code tells your keyboard app how to display the scrollbar, that it should use NotePlayer1 for sound, and where to set the volume slider when the app is launched.



## 6 Add Control to the Controls

Because the entire piano keyboard display is very large (128 keys total), the ScrollBar control will enable you to horizontally scroll through the lowest to the highest octaves on the keyboard display. Click the ScrollBar1 control in the window editor, and then check the LiveScroll box at the bottom of the properties window. Double-click the ScrollBar1 control to bring up the Code Editor, click the ValueChanged event to select it, and add the following code between the Sub lines:

```
Canvas1.horizScroll = -me.value
Canvas1.draw Canvas1.graphics
```

To program Slider1 to control volume, click the Slider1 triangle in the Code Editor window to display its events, click ValueChanged, and type `Canvas1.theVolume = me.value` between the Sub lines. To enable Slider2 to access the 128 instrument sounds, display Slider2's events, click ValueChanged, and enter this code between the Sub lines:

```
Canvas1.thePlayer.Instrument = me.value
instLabel.text = str(me.value)
```

To enable the LittleArrows control to increase the instrument number by one, display its events in the Code Editor, click the Up event, and type the following code between the Sub lines.

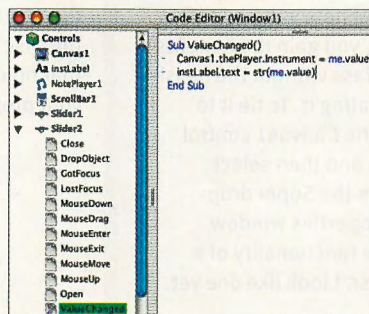
```
if slider2.value < slider2.maximum then
  slider2.value = slider2.value + 1
else
  slider2.value = slider2.minimum
end if
```

Then click its Down event and type the following code to enable it to decrease the instrument number by one.

```
if slider2.value > slider2.minimum then
  slider2.value = slider2.value - 1
else
  slider2.value = slider2.maximum
end if
```

Now close the Code Editor window and save your project.

**This bit of code enables you to select one of 128 built-in instruments using the second (Instrument) slider.**



## 7 Debug, Tickle, and Build

The moment of truth arrives. From the Debug menu, select Run. REALbasic compiles your app and then launches it. Test it out by tickling the ivories (and ebonies), moving the Volume slider, and changing instruments. If everything looks, works, and sounds good, quit the test application, switch back to your REALbasic project, and select Build Settings from the File menu. In the resulting dialog, you can choose any platform on which to build your app (Classic Mac OS, Mac OS X, Windows, or any mix of these). Since our project was designed for OS X, check only the Mac OS X (Carbon) box. From the pop-up menu, select Macintosh Settings, and then give your masterpiece a name in the Mac OS X Name field. Click OK to build the settings. Then select Build Application from the File menu to bring your app to life and play.

**REALbasic gives you the choice of building for Mac OS X, Classic Mac, and even Windows (if you dare go there). For this project, choose Mac OS X.**



## WHAT'S THAT SOUND?

When you fire up your new keyboard app and start tinkering away, the default instrument you hear is QuickTime's Acoustic Grand Piano (instrument 1). But you've got another 127 diverse noisemakers at your fingertips. Here's the complete list of all instruments in QuickTime's synthesizer and their numbers for you to dial up in your spiffy new app.

Piano	Chromatic Percussion
1—Acoustic Grand Piano	9—Celesta
2—Bright Acoustic Piano	10—Glockenspiel
3—Electric Grand Piano	11—Music Box
4—Honky-Tonk Piano	12—Vibraphone
5—Electric Piano 1	13—Marimba
6—Electric Piano 2	14—Xylophone
7—Harpsichord	15—Tubular Bells
8—Clavinet	16—Dulcimer
Organ	Guitar
17—Drawbar Organ	25—Nylon String Guitar
18—Percussive Organ	26—Steel String Guitar
19—Rock Organ	27—Electric Jazz Guitar
20—Church Organ	28—Electric Clean Guitar
21—Reed Organ	29—Electric Guitar Muted
22—Accordion	30—Overdriven Guitar
23—Harmonica	31—Distortion Guitar
24—Tango Accordion	32—Guitar Harmonics
Bass	Strings
33—Acoustic Bass	41—Violin
34—Electric Bass (fingered)	42—Viola
35—Electric Bass (picked)	43—Cello
36—Fretless Bass	44—Contrabass
37—Slap Bass 1	45—Tremolo Strings
38—Slap Bass 2	46—Pizzicato Strings
39—Synth Bass 1	47—Orchestral Strings
40—Synth Bass 2	48—Timpani
Ensemble	Brass
49—String Ensemble 1	57—Trumpet
50—String Ensemble 2	58—Trombone
51—Synth Strings 1	59—Tuba
52—Synth Strings 2	60—Muted Trumpet
53—Choir Aahs	61—French Horn
54—Choir Oohs	62—Brass Section
55—Synth Vox	63—Synth Brass 1
56—Orchestra Hit	64—Synth Brass 2
Reed	Pipe
65—Soprano Sax	73—Piccolo
66—Alto Sax	74—Flute
67—Tenor Sax	75—Recorder
68—Baritone Sax	76—Pan Flute
69—Oboe	77—Bottle Blow
70—English Horn	78—Skakuhachi
71—Bassoon	79—Whistle
72—Clarinet	80—Ocarina
Synth Lead	Synth Pad
81—Square Wave	89—Fantasy
82—Sawtooth Wave	90—Warm
83—Calliope	91—Polysynth
84—Chiffer	92—Choir
85—Charang	93—Bowed
86—Solo Vox	94—Metallic
87—Flirts Saw Wave	95—Halo
88—Bass & Lead	96—Sweep
Synth Effects	Ethnic
97—Rain	105—Sitar
98—Soundtrack	106—Banjo
99—Crystal	107—Shamisen
100—Atmosphere	108—Koto
101—Brightness	109—Kalimba
102—Goblins	110—Bagpipe
103—Echoes	111—Fiddle
104—Space	112—Shanai
Percussive	Sound Effects
113—Tinkle Bell	121—Guitar Fret Noise
114—Agogo	122—Breath Noise
115—Steel Drums	123—Seashore
116—Woodblock	124—Bird Tweet
117—Taiko Drum	125—Telephone Ring
118—Melodic Tom	126—Helicopter
119—Synth Drum	127—Applause
120—Reverse Cymbal	128—Gunshot



Erick Tejkowski is president of the Bring Back the Keyboard Power Button Club (BBKPPBC). Unfortunately, the club currently has only one member.



# Attention MacAddicts!

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# Play Hidden Unix Games and Other Oddities

by Ian Harris

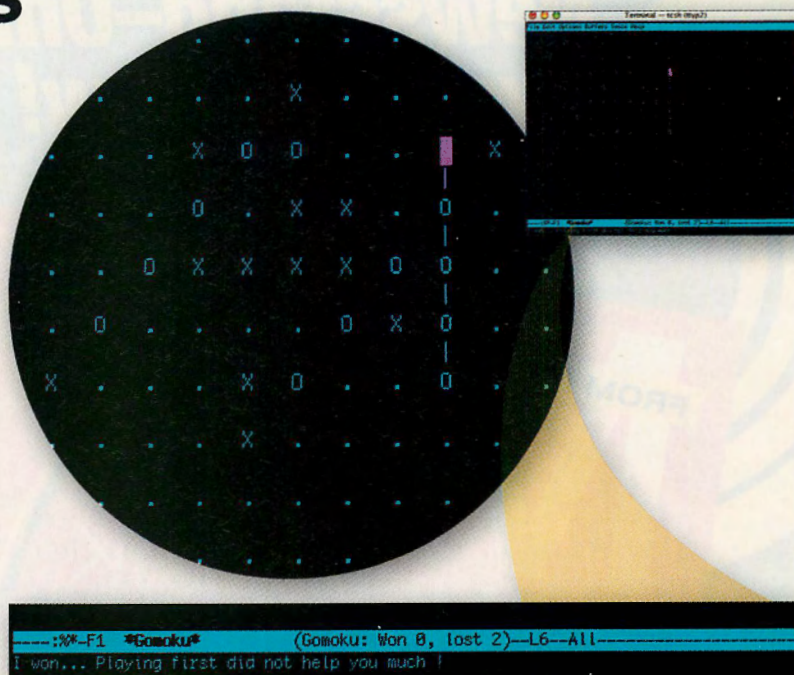
EASY

## WHAT YOU NEED

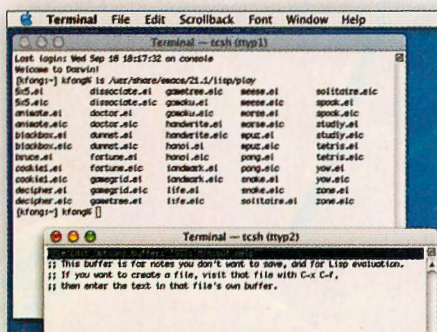
• Mac OS X (\$129, [www.apple.com](http://www.apple.com))

You Darwin dwellers and fans of classic games are in for some Terminal treatment. Ever since we showed you two Unix gems buried deep inside Mac OS X (see “Terminal Laughter,” Mar/03, p63), you’ve been asking us for more, so here you go.

Everyone knows Mac OS X is rooted in Mork-and-Mindy-era Unix, but you don’t need to be a Unix geek to join in the fun. Just head straight to the Terminal and enjoy the ride. If you’re running Panther, some of these games have now gone GUI—if not, ASCII is the look of the day. (We also changed our Terminal windows colors in the Window Settings to make things look more palatable.)



The Terminal isn’t all about file manipulation and commands—there’s fun to be had (playing this “connect-five” game, Gomoku, for example) if you know where to look.



**1 Take a Look at Your Options** To get a list of all the fun oddities that await you, launch the Terminal. At the prompt, type `ls /usr/share/emacs/21.1/lisp/play`, and press Return—Panther users should substitute 21.2 for 21.1. A list of all installed game scripts will appear. Now get ready to play. Select New Shell from the File menu—this will open a new Terminal window so you don’t lose your list. In the new window, type `emacs`, and press Return to launch Emacs, a Unix-based text editor. Press Esc (escape), and then press X to move to the menubar command-line at the bottom of the window.

If you don’t often troll through the Terminal, you probably never knew these games were already on your Mac.



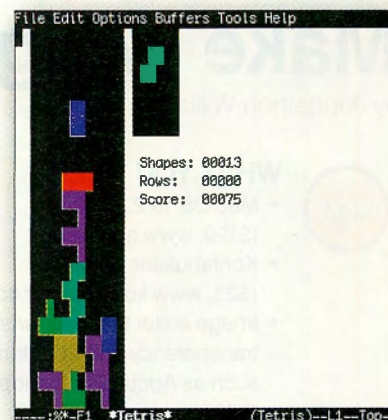
**2 Slither and Snack in Snake** To play a game, type its name at the Emacs window’s command-line prompt, minus the .el or .elc extension. For example, type `snake` and press Return, then try out the fantastic text-based version of the classic Snake game. Don’t know how to play? Just use your keyboard’s arrow keys to guide the snake (if you’re running a pre-Panther OS, it’s really a line of Os) around an arena where it can gobble up all the apples (represented by asterisks) by running into them. If your snake hits a wall or bumps into its own tail, it’s curtains for old slippy. Be prepared—your snake travels faster and gets longer with each apple it eats. Type `q` to quit this or any game.

Snake ain’t just for cell phones—just type `snake`, and you’ll be met with a ravenous bar—or a line of Os in pre-Panther OSs.



**3 Tumble Through Tetris** You've seen the clones, knockoffs, and inspired versions of this classic game—now you can play the Unix version. First, press Control-X to clear the Emacs screen and get a one-window view. Then press 1. To play Tetris, press the Esc key, press X, type **tetris**, and press Return. For the uninitiated (what rock have you been hiding under?), the object of the game is to keep falling blocks from stacking up and filling up your game field. You prevent this by strategically positioning the falling blocks to form a solid horizontal line, which eradicates that level. Use your keyboard's left and right arrow keys to shift the blocks left or right, press the up and down arrows to rotate the piece, and press the spacebar to make the block drop down instantly. Unix's Tetris might not have the funky disco music of other versions (or color in pre-Panther OSs), but it's still a good way to spend a lunch hour.

**This Unix version of Tetris may not be as pretty as the hundred-some clones out there, but gameplay is the same (and we still suck).**



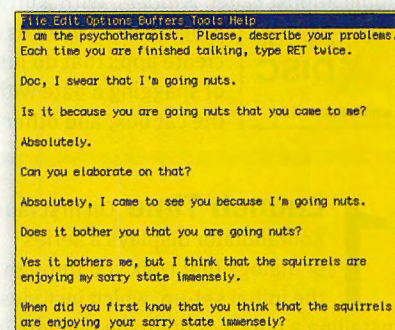
**4 Ping and Pong** If you're looking to preserve brain cells for more important matters, why not play the first-ever arcade game, Pong? Clear the Emacs screen, press Escape, and then press X to call up the menubar command-line. To start playing, type **pong** and press Return. You know the drill: Move the paddle to keep the ball in play. Miss it, and you're a loser. In the Unix version, two people can play. One uses the up and down arrows to move the left paddle, and the other uses the left and right arrow keys to control the right paddle. Playing this way obviously means you have to get close to your opponent, so it's best to only challenge people who have showered recently.

**Believe it or not, this is the game that started the video-game evolution.**

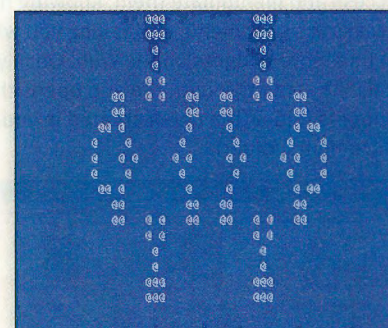


**5 See a Shrink** Games aren't the only thing hidden in Mac OS X. If you're feeling a little off, free psychotherapy sessions are yours for the taking. Clear the Emacs screen, navigate to the command-line, type **doctor**, and press Return to pay a visit to your personal Mac shrink. "I am the psychotherapist," the doctor states. "Please, describe your problems. Each time you are finished talking, type Return twice." Say you're tired, and the doc asks you why you say you're tired. Complain about a nosebleed, and you'll get, "Perhaps your life has something to do with this." If you threaten to kill yourself, the doctor gets very serious and gives you a couple of email contacts and a Web site address to get some real help.


**We're not sure who's more delusional—us or our Mac shrink.**



**6 Get A Life** Now that the shrink has fried your fragile mind, perhaps a bit of serene peacefulness is in order. If all you want to do is sit and stare, you can call up Life, one of the first screen savers. Clear the Emacs screen, move down to the command-line, and type **life**. You'll get a text-based representation of dividing cells. A single cell (represented by an @ sign) appears in the middle of the screen. After a couple of seconds, one splits into two, two become four, and so on. To see a different pattern, quit (type q), and start it over again. Life doesn't live forever—our cell patterns died after about 80 generations or moved off the screen completely—but it's been around since the 80s, so we'll give it a break.



**It doesn't have the gooey goodness (or the functionality) of a GUI screen saver, but it's free.**

 When Ian Harris isn't editing Mac stories on the other side of the pond, you'll find him trying to best his Tetris score.



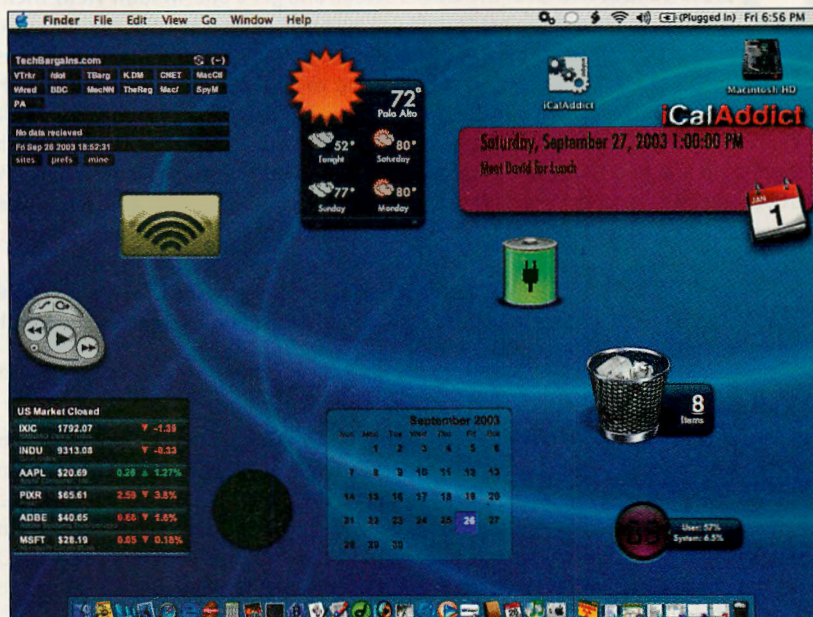
# Make Widgets with Konfabulator

by Johnathon Williams

TRICKY

## WHAT YOU NEED

- Mac OS 10.2.3 or later (\$129, [www.apple.com](http://www.apple.com))
- Konfabulator 1.5 or later (\$25, [www.konfabulator.com](http://www.konfabulator.com))
- Image editor that supports transparency and PNG format, such as Adobe Photoshop (\$609, [www.adobe.com](http://www.adobe.com)) or GraphicConverter (\$35, [www.lemkesoft.com](http://www.lemkesoft.com))
- Text editor, such as BBEdit (\$179, [www.barebones.com](http://www.barebones.com)) or TextEdit (part of OS X)
- iCal with scheduled calendar of events (part of OS 10.2)



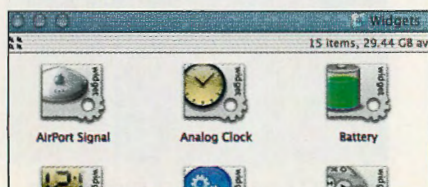
Welcome to the Widget factory. Get comfortable. You're going to want to stay awhile.

Mac addicts have a powerful new ally in their continuing war against unused leisure time. It's called Konfabulator, and it's the best thing out there if you're looking to create simple, great-looking, mini desktop applications, called *Widgets*. With a little practice, even programming novices can use Konfabulator to create apps that do just about anything (short of snagging a date with a supermodel, cleaning the cat box, and other far-fetched ideas).



Strictly speaking, Konfabulator is billed as a "Java runtime engine" (um, no, we don't know exactly what that means either). Simply speaking, it's shareware that runs in the background, combining graphics and scripts to create Widgets for your desktop. Here, we show you how to build a simple Widget—one that displays tomorrow's first appointment from the schedule at the top of your iCal calendar list. Keep in mind that this is an introduction—take what you learn and run with it.

**1 Launch Time** On first launch, Konfabulator displays a series of dialogs that walk you through the initial set-up, which includes installing a bunch of premade Widgets in your Documents folder, launching a few Widgets and displaying directions on how to access and manipulate them, showing how to access the gear menu, and telling you where to find more Widgets on the Web. Once you finish the walkthrough, the app opens the Widgets folder (the one it created in your Documents folder).



Once you complete the initial setup, Konfabulator displays the Widgets it installed.

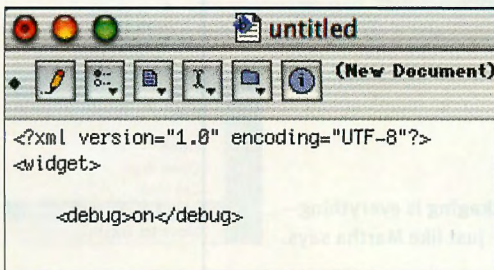
**2 Make Your GUI Gorgeous** Most Widgets perform a simple function, but that doesn't mean you should skip on its appearance. To create your calendar faceplate (this Widget requires only a space to display appointment info, but feel free to add other design accoutrements—we added a logo and the iCal icon to spruce up ours), launch your graphics app (we used Photoshop). First, create a new, relatively small document, keeping in mind that it will be soaking up desktop space; we set ours to 475 by 250 pixels. Next, create a new layer, turn off the Background layer's visibility, and start designing your Widget. Be sure to design at least one element that can hold two lines of text and display black text legibly. From there, layer stuff, add shadows, create bevels, play with opacity—go crazy. When finished, create a new folder called *images*, and save your work as a PNG file inside of it.



You don't need to be a skilled artist to create good-looking Widgets—Photoshop filters and a bit of copy-and-paste make for a good recipe.

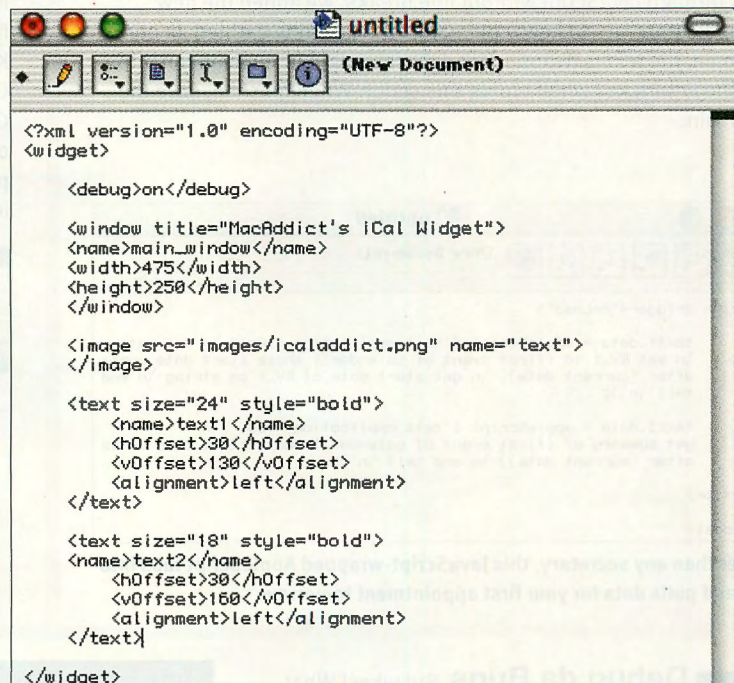


**3 Mark the Markup Language** To construct a Widget, you need to feed Konfabulator display instructions via an XML file—XML (extensible markup language) is similar to HTML in that it structures information by placing it between bracketed tags. To code, start with an opening tag (for example, `<width>`), follow it with specific information for that tag (typing `400` would set the width to 400 pixels in this scenario), and then end the instruction with a closing tag (for example, `</width>`). To create our calendar Widget, launch your favorite text editor (if using TextEdit, use plain-text formatting), type `<?xml version="1.0" encoding="UTF-8"?>`, and press Return. This tells XML parsers that the file adheres to XML 1.0 specifications and is encoded in Unicode UTF-8. Then type `<widget>`, the opening tag for your Widget instruction. Press Return twice to skip a line and then press Tab to indent. Next, type `<debug>on</debug>`, press Return twice, and then press Tab—this turns on the debug menu, which helps you find problems when you test your Widget.



Before you start writing up the XML code, precede your instructions with this first line of info, so that XML parsers will know what they're dealing with.

**4 Build the Skeleton with XML** Just copy our XML instructions (shown here) into your text doc, but substitute the following variables with your own: for *window title*, supply an app name; for *width* and *height*, enter your image's dimensions accordingly; for *image src*, keep the path but substitute *icaladdict.png* with your image's name. Copy the rest of the code as shown for now—you'll tweak the text offsets (`<vOffset>` and `<hOffset>`) later since your graphic will vary in size from ours. To keep things simple, we used only one image in our Widget, but Konfabulator can support multiple images—put each image in its own XML tag section and include offset and alignment tags for placement. You can also set opacity tags. When finished, save your file as *iCalAddict* (or the like) in plain text, but omit a file extension—you'll add one later.



The painless way to code a Widget? Plagiarize. Well, with our code anyway. Just copy our text line for line, but fill in your own variables.

## A WORD ABOUT WIDGETS

Before you start building, you should know a few things about Konfabulator and Widgets in general. Because Konfabulator runs as a background app, you won't find its icon in the Dock. Instead, it presents itself as a menubar item—its icon looks like a pair of gears and is located toward the menubar's right side when it's running. To quit Konfabulator and all running Widgets, select Quit Konfabulator from this gear menu. To quit an individual Widget, Control-click the Widget interface and select Close Widget from the contextual menu.

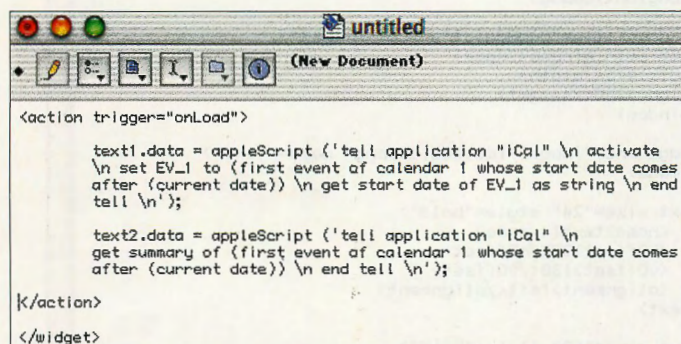
The calendar Widget in this tutorial barely scratches the surface of what you can do with Konfabulator. Anything JavaScript and AppleScript can do, a Widget can do, so the possibilities are practically endless. One of the easiest ways to improve your Widget-making skills is to look at how others

script their Widgets. You can examine the XML and scripting of any Widget by Control-clicking a Widget's icon, selecting Show Package Contents from the contextual menu, and opening the `.kon` file in any text editor.

To expand your Widget-making abilities, we highly recommend downloading the Widget XML & JavaScript Reference file from [www.konfabulator.com/workshop](http://www.konfabulator.com/workshop) (if you get stuck, the site's Forums page is also a good place to seek help). This PDF contains a wealth of information about XML tags and several JavaScript extensions supported by Konfabulator. Although AppleScript knowledge is handy, to get to the meat of Konfabulator's abilities, get to know JavaScript. David Flanagan's *JavaScript, The Definitive Guide* is an excellent reference book, published by O'Reilly (this one has a Rhino on the cover).



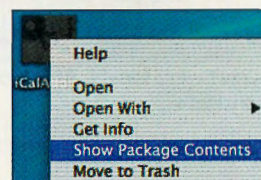
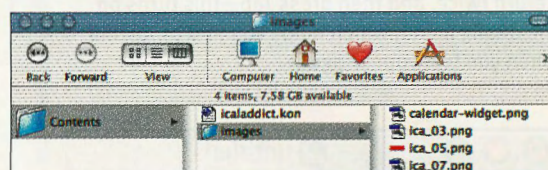
**5 Script the Brain** Congratulations. You now have a perfectly valid XML skeleton for a Widget. Konfabulator could load and display this file as a Widget with no problem. However, unless you create a script that tells the Widget what to do, your GUI goodie will just sit there on your desktop, looking vacant. Though Konfabulator prefers JavaScript, it also allows you to execute AppleScript instructions from within a JavaScript. This script uses AppleScript to tap into your first calendar in iCal and copy the info for your next scheduled appointment. It starts with tomorrow's schedule and displays the info in your calendar Widget—make sure you have something scheduled before you begin. Copy the entire script shown here into the line above the closing `</widget>` tag in your XML file. Because AppleScripts must pass through JavaScript without line breaks, we added the new line indicator—`\n`—to keep commands from getting garbled. In our example, the text is wrapped for easy reading, but remember not to use the Return key when typing this script. When finished, save the file again.



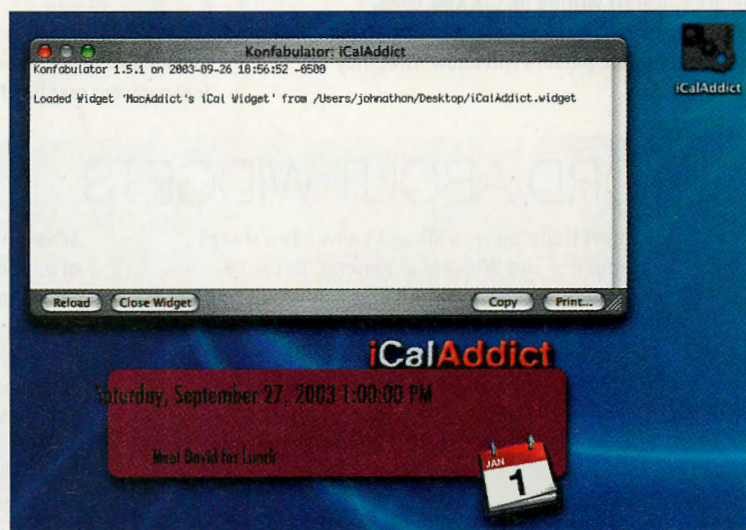
**Faster than any secretary, this JavaScript-wrapped AppleScript taps into iCal and pulls data for your first appointment tomorrow.**

**7 Debug da Bugs** But yikes! What you see is likely not what you had in mind. Relax. This is normal. Remember what we said in step 4 about the `<Offset>` and `<hOffset>` tags—the numbers for these probably need some adjusting so that your two appointment texts align with your graphic. Along with your Widget, a debug window appears. If everything executed correctly, the debug window displays a nondescript “Loaded Widget” message. If not, you’ll see red error messages—typos are the most likely cause of errors. To fix everything, open up your Widget’s package, open your iCalAddict.kon file in your text editor, readjust the offset values, and double-check your typing. When finished, save your changes and click the Reload button at the bottom of the debug window. Repeat this process until all errors are gone. Once everything is working and looking good, go back into your iCalAddict.kon file and change the `<debug>` value from `on` to `off` to get rid of the debug window. The next time you activate your Widget, Konfabulator will display it in all its shiny, solitary glory.

**6 Package It and Play** Konfabulator stores Widgets inside of *packages*, or folders that the operating system treats as a single entity. To create a package for your Widget, first create a folder named iCalAddict (or whatever you want to name your Widget). Inside of this folder, create another folder named Contents. Drag the images folder that holds your PNG file into the Contents folder. Next, drag your XML text file into the Contents folder, and then add the extension `.kon` to your XML file. A dialog appears, asking if you really want to do this; click Use. Now add the extension `.widget` to the iCalAddict (or equivalent) folder. Again, a dialog appears, asking if you want to make the change. Click Add, and the folder icon magically transforms into the standard Konfabulator Widget icon. To open the package, Control-click the Widget icon and select Show Package Contents from the contextual menu; a new window opens with your Contents folder inside. Close up the package by closing its window, double-click the Widget icon, and watch the fireworks.



**Packaging is everything—just like Martha says.**



**Even the best programmers get bugs—time to go Orkin on them.**



Johnathon Williams is working on a Widget that will deliver a high-voltage shock to his body when he stops working and starts doing something superfluous—like Widget-making.



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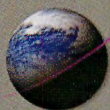
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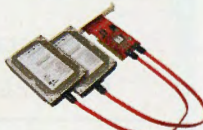
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Serial drive and PCI card

Serial drive and cable



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SPECS: PC133 / PC100 SDRAM 168pin DIMMs



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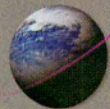
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G4 AGP Graphics / G4 Sawtooth



G4 Gigabit Ethernet



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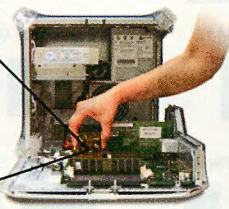
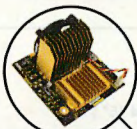
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QuickSilver II



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G4 performance**



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and restart**



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Macworld Oct '03



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MyMac 4 out of 5

MacAddict - 'Solid'

- |  |   |
|--|---|
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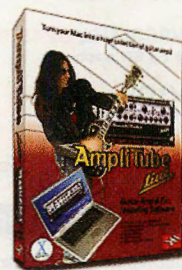
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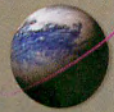


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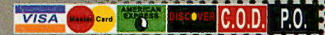




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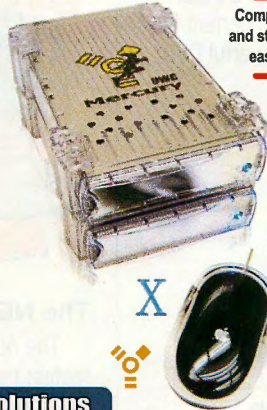


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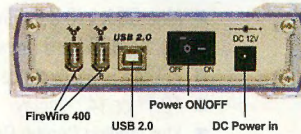
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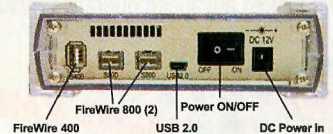
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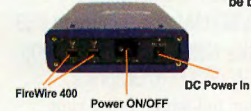


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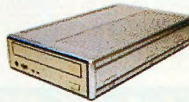
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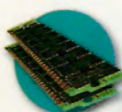
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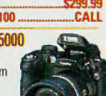
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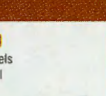
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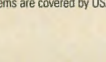
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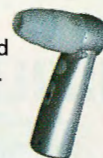
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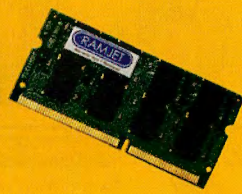
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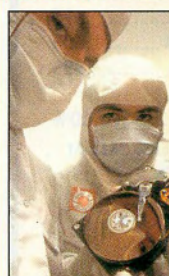
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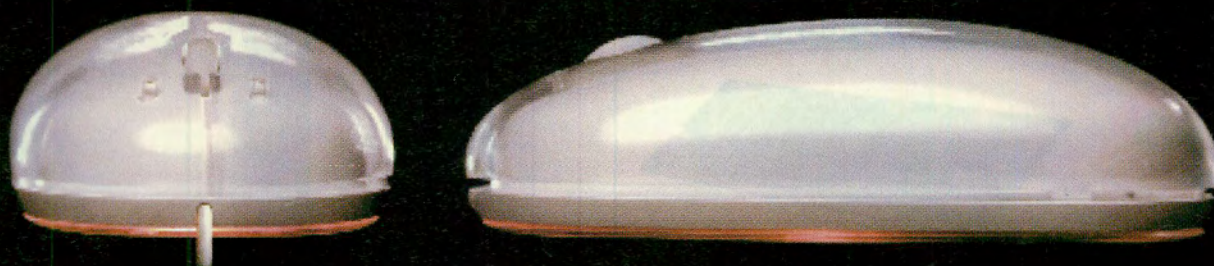
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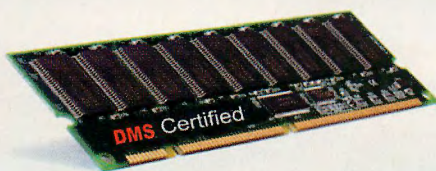
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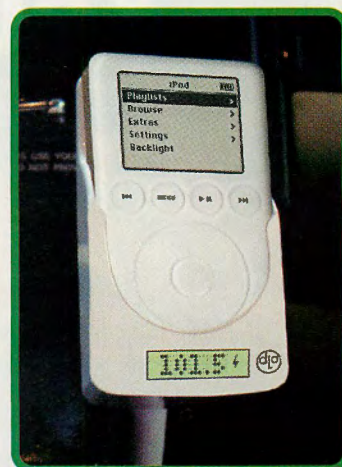


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# LETTERS

## SEXY METAL

I got my new 15-inch G4 PowerBook and, man, is this thing bitchin'. I had no idea aluminum could be sexier than titanium.

—Tony Dominguez

Think your 'Book is sexy, you should see me in my aluminum Speedo.—Max



I'm too sexy for titanium.

## TAKE A BITE OUT OF CRIME

Your article, "Protect Yourself from Online Scams" (Oct/03, p40), which describes how Internet fraud villain Vitaly Jones suckered unsuspecting Mac users with impossibly low hardware prices, provides some food for thought. Little did I realize just how pertinent the information in the article was. This morning I checked my .Mac email, and lo and behold, there in my in-box was an offer from none

other than Vitaly Jones.

—Andi Davis

We forwarded that email to the legal eagles at Apple. Thanks, Andi.—Max

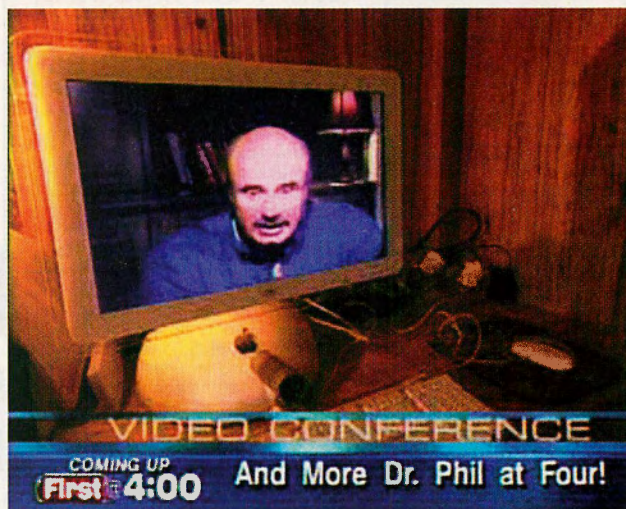
## THE MACSCAN SCANDAL

I read "Protect Yourself from Online Scams" (Oct/03, p40) and want to point out a few things. The MacScan application you mentioned messed up my OS X Preferences. Plus, the Security sites you listed—Securemac.com, Macintoshsecurity.com, and Freak's Macintosh Site—are owned by the same person. The article itself was good, though.—Jason Kopp

As a bazillion angry readers have pointed out, we failed to mention that the MacScan software on the Disc was a beta (i.e., unfinished) version. MacScan developers say a new beta with bug fixes should be out by the time you read this.



The best defense against Vitaly Jones.



## RECENTLY SIGHTED

Dr. Phil uses Apple's iSight Web cam on TV.—Clint

Yes, Securemac.com does hosting, funding, and ecommerce for Macintoshsecurity.com and Freak's Macintosh site; however, the writers of each site are unique.—Max

and password.)

—Alexander W. Kohr

## THE DEAL WITH .DS\_STORE

My eMac is infected with the .DS\_Store virus! This file appears in every window on my eMac. How do I solve this problem?—Bob Adams  
You probably don't have a virus. The Mac OS X Finder creates .DS\_Store files to track view options and icon positions in a folder. These files are normally hidden from view, but if you transfer files from a Windows server or removable media, they can appear. While annoying, they are generally harmless. A number of shareware apps like Red Room Development's DS\_Store Cleaner (free, [www.redroomdevelopment.com](http://www.redroomdevelopment.com)) can get rid of them.—Max

## WE'RE PINK. THE PRINTER'S NOT.

In November 2003's Ask Us section (p64), you say you can't remove pink-highlighted printers in Mac OS X's Print Center because they are network printers enabled via Printer Sharing. That isn't correct. To hide the pink-highlighted printers, launch Print Center (Applications > Utilities), go to Print Center > Preferences, and uncheck the box marked Show Printers Connected To Other Computers. (You need the administrator's user name

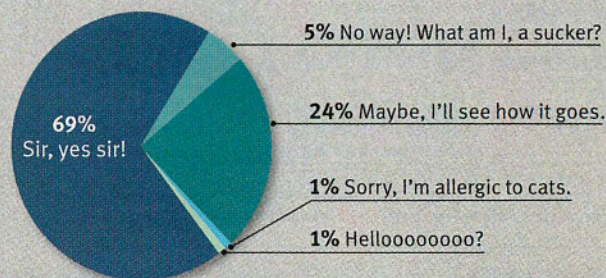
## SURVEY SAYS

### Online Poll Results

Here are the results of our September 2003 online poll. Go to [www.macaddict.com](http://www.macaddict.com) each month to give us your two cents on Mac-related questions.

### ARE YOU PLANNING ON UPGRADING TO PANTHER?

3,324 respondents





## RIGHT-WING CONSPIRACY?

Until John Ashcroft incinerates a community of women and children or sends a small Cuban boy back to Castro's paradise as his predecessor (Janet Reno) did, do you think you could spare us the liberal cheap shots?—Gary Stewart  
Gary's referring to Editor in Chief Rik Myslewski's mention that he'd prefer to keep his predilection for leftie literature below John Ashcroft's radar (*Editors' Page*, Oct/03, p8). Rik also thinks Janet Reno is a stone fox, and the only cheap shots he's interested in are the kind you pound during happy hour.—Max

## ALL CHRISTIANS ARE NOT ALIKE

My gripe is with your comment on the wacko Christian Web site (*Get Info*, Oct/03, p13) that accused Apple of harboring a hidden Darwinist agenda. Please remember you have a large reader base, including Christians. The authors of that site's content do not represent all Christians. You could have been nicer to your Christian readers and at least written some type of disclaimer.  
—John McKendricks  
We weren't dissing Christians, we were dissing wackos—who are well represented in all creeds.  
—Max

## THE SLUGFEST CONTINUES...

We pitted competing software against each other in our Oct/03 article "Mac Software Slugfest" (p18). Some of you haven't retired your gloves yet.

## FROM THE EDITING ROOM FLOOR

You left many questions unanswered. Peanut butter: creamy or crunchy? Toilet paper: plain or quilted? And your verdict of rock over country was a no-brainer.  
—Ray Meyers

## THE LOGIC ARGUMENT

In the Digital Performer vs. Logic fight, you picked the wrong app as the winner! Logic is the most flexible music composition app in the world. Oh yeah, the G5 cheese-grater spoof (*Shut Down*, Oct/03, p96) was hilarious.  
—Glenn Ruegers

## TIME FOR INDESIGN

Thank you for "Mac Software Slugfest." I thought I would save time and money by upgrading to Quark 6.0, but after reading Quark vs. InDesign, I admit I should have switched to InDesign in the first place.  
—Elizabeth Diethelm

## PICO VS. VI, ROUND II

I disagree with your choice of pico as the command-line text editor winner because cross-platform compatibility was not taken into account. Its competitor vi is available for Mac, Apple ][, Linux, Sun Solaris systems, and others. I believe vi should have been the winner.—Mark Peters



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Win HP's Scanjet 4670 (\$199 street, [www.hp.com](http://www.hp.com)), a 48-bit, 2,400-dpi USB scanner with slide and transparency adapters. Just write the best caption for the picture below and send it in. **Only one entry per contestant.**

## ENTRY FORM



### CONTESTANT INFORMATION

Full Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip: \_\_\_\_\_  
Email or telephone: \_\_\_\_\_

Send snail-mail entries to: HP Contest  
MacAddict magazine, 150 North Hill Dr., Brisbane, CA 94005.  
Send email entries to: [contest@macaddict.com](mailto:contest@macaddict.com) with the subject HP Contest.  
Deadline for entry: January 31, 2004.  
Contest results will appear in our May/04 issue.

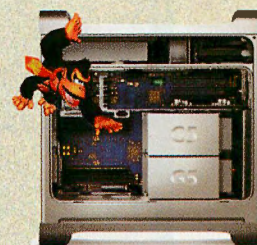
### Contest Rules

The judges will be MacAddict editors and will base their decision on 33 percent humor, 33 percent originality, and 33 percent creativity. All entries must be received no later than January 31, 2004, with the winner announced around May 2004. By entering this contest, you agree that Future Network USA may use your name, likeness, and Web site for promotional purposes without further payment. All prizes will be awarded and no minimum number of entries is required. Prizes won by minors will be awarded to their parents or legal guardians. Future Network USA is not responsible for damages or expenses the winners might incur as a result of this contest or the receipt of a prize, and winners are responsible for income taxes based on the value of the prize received. A list of winners may also be obtained by sending a stamped, self-addressed envelope to Future Network USA c/o MacAddict Contest, 150 North Hill Dr., Brisbane, CA 94005. This contest is limited to residents of the United States. No purchase necessary, void in Arizona, Maryland, Vermont, Puerto Rico, and where prohibited by law.

## WINNER!

Lexar/Nikon Caption Contest

Congratulations to **Dennis Kuhn**, whose caption for this picture won him a Nikon Coolpix 5400 digital camera and a Lexar Media 2GB CompactFlash card.



**Donkey Kong secret level revealed!**

SCANNER PHOTOGRAPH COURTESY OF HP

PHOTOGRAPH BY NARASIMHA REDDAPRAGADA

PHOTOGRAPH BY MARK MADEO



## THE iCAN

THIS IPOD ACCESSORY PROVES THAT YOU REALLY CAN TAKE IT WITH YOU

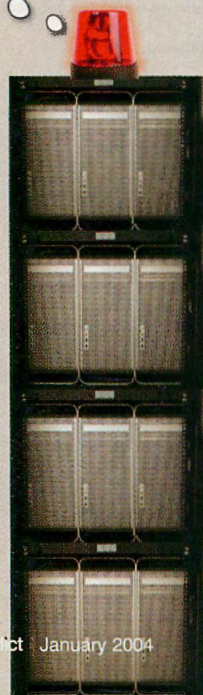
**Y**ou no longer have to cross your legs or hop foot-to-foot while enduring long bathroom lines, or risk poison ivy contact from squatting behind shrubs. Come sold-out concert venue, international flight, or backpacking, the handy new iCan accessory allows you to take a Porta Potti-type device with you wherever you go. The compact 6-by-4-by-4-foot iCan sports a paper dispenser with an integrated iPod cradle and audio connector, as well as both dock-style and 6-pin FireWire connections so you can conveniently recharge your 'Pod while takin' care of business.



The iCan:  
Not just for  
construction  
sites and state  
fairs anymore.

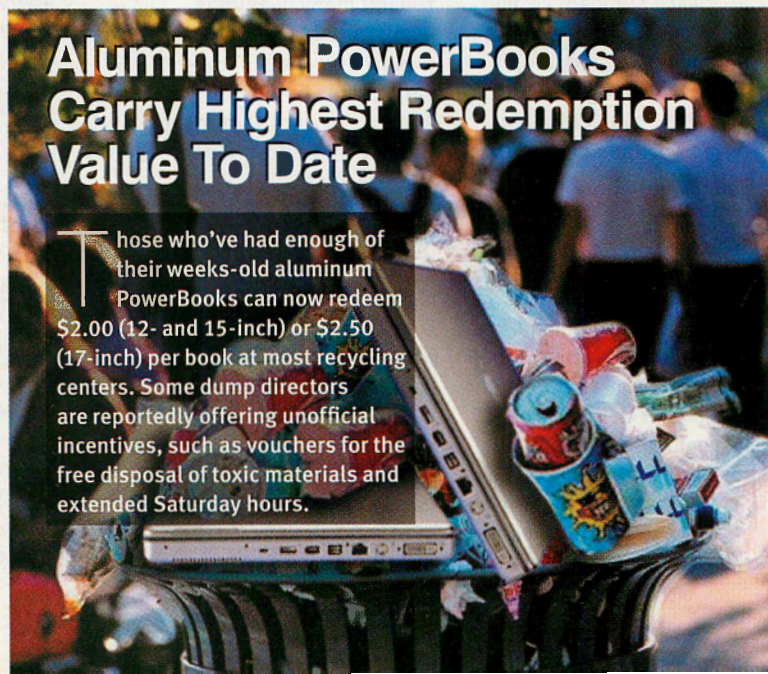
## THE G5 SUPERCOMPUTER SPEAKS

"Shut me down if  
you've heard this  
one:  $e$ ,  $\pi$ , and the  
cosmological constant  
walk into a bar..."



## Aluminum PowerBooks Carry Highest Redemption Value To Date

**T**hose who've had enough of their weeks-old aluminum PowerBooks can now redeem \$2.00 (12- and 15-inch) or \$2.50 (17-inch) per book at most recycling centers. Some dump directors are reportedly offering unofficial incentives, such as vouchers for the free disposal of toxic materials and extended Saturday hours.







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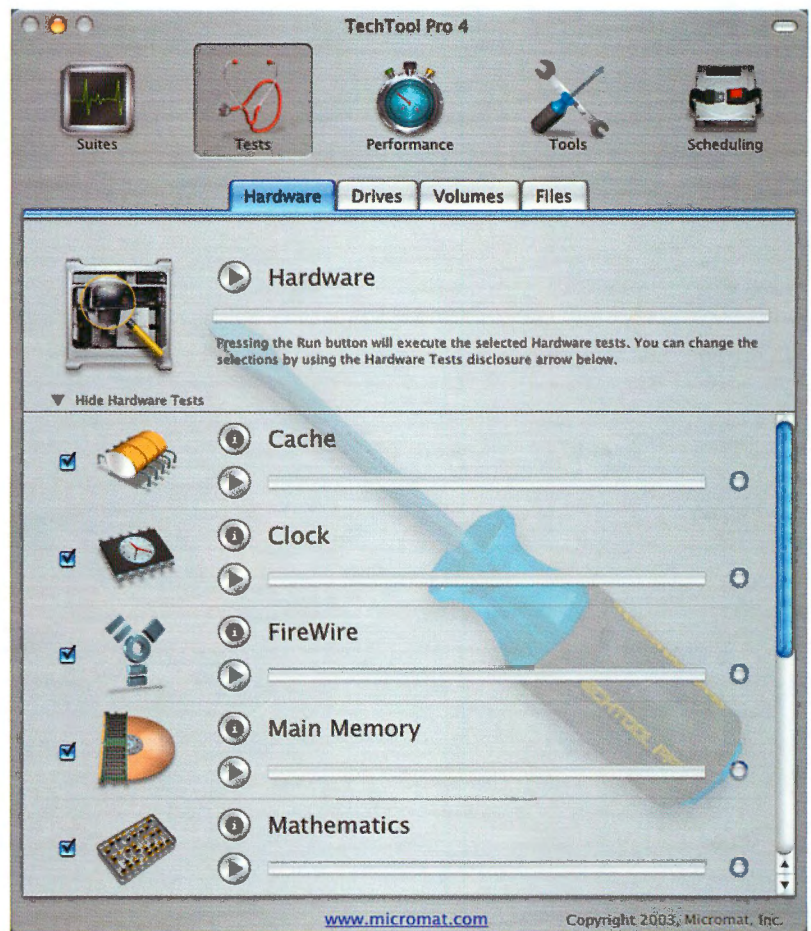
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